THE

physical therapy

REVIEW

Volume 32 - Number 6 June 1952

An Exercise Program for Axillary Nerve Injuries
— TOMASCO and SNELBAKER

Camping for Crippled Children

Organization of a Physical Therapy Program
— SCHLEICHKORN

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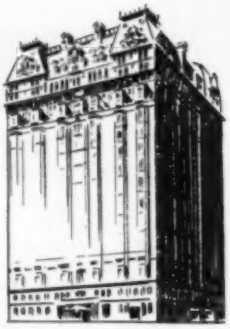

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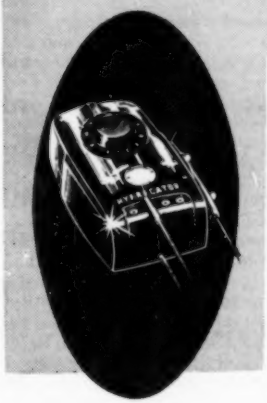

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THE physical therapy REVIEW

288 Vol. 32, No. 6

published monthly by the
American Physical Therapy Association
at 1790 Broadway, Room 1315
New York 19, N. Y.

Editor: E. JANE CARLIN

Associate Editors: DANIEL R. BARTHOLOMEW, MARY E. CALLAHAN, LOUISE REINECKE

Managing Editor: CAROL VANCE

Assistant Business Manager: SHIRLEE STERN

Membership in the American Physical Therapy Association is $15.00 a year, including a subscription to THE PHYSICAL THERAPY REVIEW. Subscriptions for nonmembers to THE PHYSICAL THERAPY REVIEW, $6.00 a year; $6.75 in Canada and foreign countries. Single copies 75 cents. ($0 cents to members.) Reentered as second class matter August 11, 1949, at the post office at New York, N. Y., under the act of August 24, 1912.

The statements in the manuscripts published in THE PHYSICAL THERAPY REVIEW are made solely on the responsibility of the author. The American Physical Therapy Association does not assume any responsibility for statements contained therein. Manuscripts accepted for publication in THE PHYSICAL THERAPY REVIEW are for exclusive publication and may not be published elsewhere without permission.

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The Physical Therapy Review

Official Publication of The American Physical Therapy Association

Volume 32 **June 1952** **Number 6**

An Exercise Program for Axillary Nerve Injuries

William A. Tomasco, M.D., and Helen F. Snelbaker

In the field of industrial medicine the occurrence of axillary nerve injuries is more frequent than supposed, and they vary from severing to simple stretching of the nerve. Direct trauma (blows, penetrating wounds, pressure, stretching, fractures or dislocations), tumors, infections or anaphylactic reactions (antitetanus injections) may cause the injury.

On examination a patient may present considerable disability. He lacks flexion, abduction, and rotation of the shoulder; the arm hangs close to the body and voluntary motion is absent. Often full range of motion of the shoulder can be performed passively. Atrophy of the deltoid may be present, causing a flattening of the rounded contour of the shoulder and sensory changes occur over the prominence of the deltoid. Reaction to electrical current may or may not be noted. In differential diagnosis the possibility of myositis, bursitis, fractures, dislocations, arthritis, and ankylosis must be considered.

The axillary nerve supplies the deltoid and teres minor muscles, which abduct, externally rotate, and assist with flexion and extension of the shoulder joint. The flaccid paralysis typical of peripheral nerve injuries exhibits itself, and loss of motion in the shoulder is marked because of the strategic function of these muscles. With the deltoid supporting the shoulder from above and teres minor from below, failure of these muscles to develop sufficient tension to hold the head of the humerus against the glenoid fossa markedly restricts motions because the fulcrum around which the levers operate is unstable. The effect of gravity pulling the arm from its socket may even result in subluxation of the head of the humerus.

The familiar role of the deltoid as an abductor usually is considered of primary importance. The other functions of the deltoid, flexion, and hyperextension, are often given scant attention and the importance of the teres minor as a muscle of fixation is frequently overlooked.

The patient seems to be most conscious of, and inconvenienced by, the loss of flexion for he cannot accomplish such familiar tasks as eating, shaving, or placing objects on a shelf or table. The arm hangs limp at the patient's side and if he wishes to raise it forward he must reach over with his other hand, grasp the arm and lift it into the desired position. This he frequently does, thus maintaining the range of passive motion. A method of changing this passive motion into an active motion is the subject of this paper. In view of the fact that we are concerned only with the reestablishment of voluntary function following the return of the nerve supply, no details of the other treatment are included.

It is recognized that a program of graduated exercises will increase the strength of a normally innervated muscle. Dr. DeLorme has developed

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an exercise program based on the principle that the work capacity of a muscle can be increased. This principle can be reversed and the work required of a muscle can be decreased. In the presence of muscle weakness this reduction of load placed upon the muscle to the point where it equals the muscle strength is the basic consideration in establishing this exercise program.

Normal muscles have the capacity to match tension and load to produce maximum work efficiently for acts of daily living. A weak muscle cannot match these factors effectively because it cannot produce sufficient tension to equal the load placed upon it. The load must be scaled downward or reduced. This may be accomplished in two ways:

By Changing the Relationship of the Part to Gravity:

In the standing position when the arm is moved through its full 180 degrees of flexion, the deltoid acts concentrically at all times. Furthermore, gravity is consistently acting against the muscle pull. By placing the patient supine, however, this relationship is changed, so that after the arm reaches a perpendicular (90 degrees of flexion) gravity is now assisting the action and thus reducing the load.

By Utilizing the Fact That the Character of Muscle Contraction Changes Continually as the Segment Changes Its Relationship to Gravity and Position:

When arm flexion occurs in the supine position the arm flexors act during the first 90 degrees of motion concentrically against gravity. As the arm passes the perpendicular, gravity now assists flexion. In returning to the anatomical position both the effect of gravity and the character of the contraction change. (The muscle now acts against gravity from 180 degrees to 90 degrees with gravity from 90 degrees to zero.) This continual change of weight, gravity, and type of muscle contraction results in a varied amount of work placed on the muscle. By selecting an exercise position which will utilize these factors and permit a gradual increase in load consistent with the strength of the muscle, an increase in power can be realized.

The following program of exercises, based on the above named factors also includes one further consideration. It has become apparent in working with these patients that the least load demand is placed upon a muscle when that muscle is working eccentrically. In order to take advantage of all of these factors, the exercise routine has been planned on the basis of four "quadrants" of motion. These may be briefly described as follows:

Flexion
- 1st Quadrant—performed by flexors working concentrically
- 2nd Quadrant—performed by extensors working eccentrically

Extension
- 2nd Quadrant—performed by extensors working concentrically
- 1st Quadrant—performed by flexors working eccentrically

The entire program includes only seven basic exercises. These are performed from three to five times per day with an increase in repetition of each exercise from three to fifteen as the muscle strength permits. The exercises may be briefly described as follows:

Supine: Exercise 1—External and Internal Rotation
Exercise 2—Flexion and Extension
Exercise 3—Abduction and Adduction
Side-lying: Exercise 4—Flexion and Extension
Exercise 5—Abduction and Adduction
Standing: Exercise 6—Flexion and Extension
Exercise 7—Abduction and Adduction

It will become apparent from a detailed description of these exercises that the basic consideration is the continual emphasis on active motion in an increasing degree of both power and range of motion.

EXERCISE 1: External and Internal Rotation, Patient Supine. (See Figure 1.)

Abduct the injured arm and place the elbow four or five inches from the patient's side. Flex the elbow to an angle of 90 degrees, lower the forearm and place the pronated hand on the patient's abdomen with the thumb resting just below the waistline. At first the physical therapist carries the forearm through the complete range of external rotation and back through internal rotation to the starting position. As soon as the patient understands what the required exercise is, he is requested to assist and perform as much of the movement as possible himself. Usually part, and frequently all, of the range of external and internal rotation can be performed by the patient. The total movement, or any part thereof which is voluntary motion, becomes a part of a home exercise program. The patient is urged to arrange three to five exercise periods per day, and to carry the forearm through the complete arcs of external and internal rotation three times at each exercise period. This number is increased to fifteen as soon as strength permits. Thus the patient will soon be

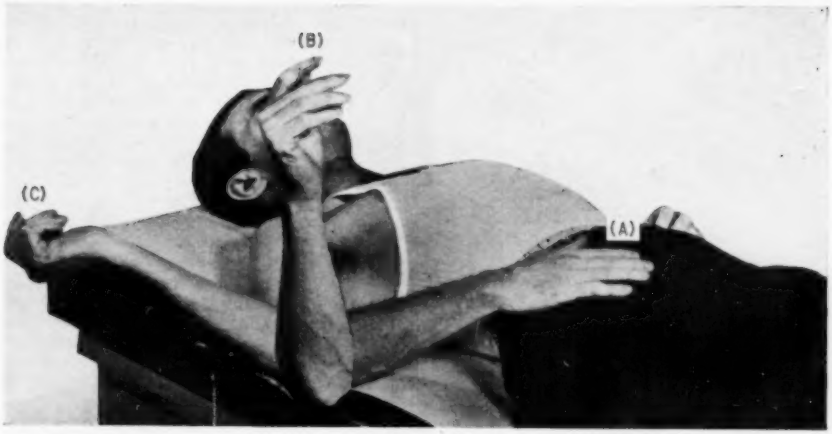

Figure 1

External Rotation { *A to B* / *B to C* } *Internal Rotation* { *C to B* / *B to A* }

performing this simple exercise 45 to 75 times each day.

This exercise is mastered quickly for several reasons. First, the shoulder in the supine position is in an advantageous position for the weak teres minor to function in its role as a muscle of fixation or in its role as an external rotator of the shoulder; second, the weight of the part moved in this exercise is the least of any encountered in the entire program; and third, the unaffected shoulder rotators provide a great deal of assistance.

EXERCISE 2: Flexion and Extension, Patient Supine. (See Figure 2.)

A small wand is placed in the patient's hands. He holds the hands pronated and the elbows in full extension. It is now possible for him to passively lift the injured arm and carry it through the complete 180-degree-flexion arc, supporting it by means of the wand and the normal arm. This will be difficult for the patient and he will cling to the wand with tightly clenched fists while the injured arm will be dragged through the flexion arc. When the flexion arc is complete, the patient reverses the motion, bringing the wand-supported arm back through the extension arc to the starting position.

The patient now has carried the injured arm through the four quadrants of motion; through Quadrant One and Two in flexion and back through Quadrants Two and One in extension. A minimum arc of active motion can now be established in Quadrant Two, both in flexion and extension, since the factors that reduce load to the minimum are present here.

1. The adjustment of the part to gravity has placed the fulcrum in an advantageous position for stabilization.
2. The adjustment of the part to gravity has reduced the arc of motion performed by the flexors working against gravity by one-half.
3. The adjustment of the part to gravity has made it possible to reduce the effort of the deltoid to the point where muscle strength and load demand are equal and the muscle begins to function in a minimum arc of active motion.

This minimum arc can be increased gradually and after a time it will be noted that the patient can more easily perform both flexion and extension with the wand. He no longer clings tightly to it, and the arm moves smoothly and easily through the flexion and extension arcs. When the patient can do this easily fifteen consecutive times, three to five times per day, the minimum arc of active motion is present in Quadrant Two. Here the weak deltoid performs a subservient, but necessary, task in that its role is that of a flexor opposing an extensor that is working first eccentrically and then

Figure 2

Flexion { *Quadrant One—A to B*; *Quadrant Two—B to C* }

Extension { *Quadrant Two—C to B*; *Quadrant One—B to A* }

concentrically. This role, though important to the smooth functioning of the shoulder, does not place a heavy demand upon the weak deltoid. In Quadrant Two, the minimum arc of active motion may increase from its feeble beginning of a few degrees to a point where a 180-degree arc may be performed unaided by help from the wand. This can be accomplished by the following simple method:

During the exercise period begin the flexion exercises as usual but as the arm reaches the perpendicular suggest to the patient that he loosen his grip on the wand on the affected side and see if he can let the arm drop backward through Quadrant Two in flexion without the aid of the wand. Reassure him by suggesting that he hold the wand close to the hand on the affected side so that he can grasp it if necessary, and ask him to carry the wand through the Quadrant with the uninjured arm as before. The patient will have confidence because the wand is held near the hand if he needs it and the affected arm will gently glide, unaided, down through at least part of the motion. If this seems too difficult the same method can be tried at the beginning of Quadrant Two in extension and unaided motion may appear first here. Many factors enter into making the first small step to full active motion. Experience indicates that motion may sometimes appear in the flexion movement first and at other times in the return in extension, and sometimes simultaneously in both. Once having appeared, it can be increased until both movements can be performed easily without the aid of the wand. When the two weak muscles are able to assume their respective roles in the performance of this simple task, their strength will increase.

Active motion makes its appearance next in Quadrant One in extension. The patient has been using the wand through Quadrant One, in flexion then passing through Two and back without aid of the wand. Again, as before, when the arm

approaches the perpendicular between Quadrants Two and One, suggest that he keep the wand near the hand of the uninjured arm, but let the arm pass downward to the starting position without grasping the wand. Reassure him by suggesting again that he can use the wand if necessary, but urge him to try to see how much he can do without it. Usually in some part of Quadrant One in extension he will lower the arm carefully and slowly, unaided by the wand, and it will soon become a game as he sees how much he can do without the wand. Needless to say the few degrees possible at first soon increase and finally the entire First Quadrant in extension can be performed unaided.

In Quadrant One, with the arm moving in extension, the load demand on the weak muscles is greater than before for in this Quadrant the deltoid becomes an agonist; however, an agonist working eccentrically aided by gravity. Gravity rules out the problem of overcoming inertia to start the movement and its pull is in the direction of the movement. Muscle tension sufficient to serve as a brake on the pulling power of gravity is all that is required and this slightly more difficult task is soon mastered.

Now, with the arm moving in flexion, Quadrant One alone remains to be conquered and, as strength increases and the patient becomes skillful without the wand through three quadrants, he is urged to try raising the arm from the starting position unaided. If this seems difficult he is requested to try to find for himself an area in this quadrant that he can do unaided by the wand. The same procedure is used, carrying the wand in the hand of the uninjured arm close to that of the injured arm to give confidence. Soon arcs of unaided motion will appear in the Quadrant also. With practice they will increase and grow stronger and finally the entire movement, complete voluntary flexion and extension, will be performed easily in the supine position.

Exercises One and Two are the basic movements. The restoration of complete voluntary movement depends upon the patient's ability to master these two successfully. They are especially useful because they may be performed by the patient without aid of the physical therapist or other interested party and they provide home exercise program from the beginning. Needless to say the cooperation of the patient is essential, for without his constant practice of these simple movements no improvement will take place.

For the sake of clarity Exercise Two is more fully described than Exercise One. It can be seen, however, that the principle of decreasing load demand by reducing the effort of the muscle to its role as an antagonist is present in Exercise One also. Although the same range of motion is anatomically impossible, the four-Quadrant pattern which permits different muscle groupings to carry out the movement is the same.

Figure 3

Abduction { *Quadrant One—A to B*; *Quadrant Two—B to C*

Adduction { *Quadrant Two—C to B*; *Quadrant One—B to A*

EXERCISE 3. Abduction and Adduction. Patient Supine. (See Figure 3.)

The shoulder joint is so unstable when the patient begins his exercise program, that passive abduction and adduction movements are delayed until the patient can perform voluntary external and internal rotation and carry the arm through flexion and extension easily with the wand. At that time the shoulder joint seems fairly stable and the patient will show no apprehension when these two movements are carried through by the physical therapist. From this time on abduction and adduction are performed passively at each visit of the patient to the clinic. When voluntary flexion is realized the arm is carried up through flexion and lowered through adduction, first with slight aid from the physical therapist, but as soon as possible unaided. These movements, divided into the Quadrant pattern, are added to the exercises performed in the clinic and at home. When strength thus gained increases, the patient is urged to attempt abduction. With a little help in the most difficult areas this movement also improves and becomes complete.

Now external and internal rotation, flexion and extension, abduction and adduction are complete in the supine position. When strength is such that these exercises can be performed easily fifteen consecutive times three to five times daily the patient is ready for the next and more difficult group.

Figure 4

Flexion { *Quadrant One—A to B*
Quadrant Two—B to C

Extension { *Quadrant Two—C to B*
Quadrant One—B to A

EXERCISE 4. Flexion and Extension. Patient Side-lying on Uninjured Side. (See Figure 4.)

In this position the shoulder is in a less advantageous position for stabilization. At the beginning the physical therapist assists the patient with the exercises as the use of the wand is impractical in this position. Aided by the physical therapist the patient carries the arm through the arcs of flexion and extension. If these motions are well established in the supine position, one or two good attempts to flex and extend in this new position will be made by the patient. If the arm can be flexed and extended unaided this exercise is added to the home exercise program; if three complete flexion and extension arcs can be performed by the patient side-lying, the other twelve are performed supine. As strength increases more will be added in the side-lying position, and proportionately less will be done in the supine position, until all fifteen can be performed side-lying. At this time flexion, extension, external and internal rotation exercises in the supine position are abandoned.

EXERCISE 5. Abduction and Adduction. Patient Side-lying on Uninjured Side. (See Figure 5.)

This position makes possible the same four-Quadrant pattern that decreases load demand by reducing the effort of the muscle to its role as an antagonist. Quadrant One in abduction will be the most difficult to perform, for the movement must be performed by the abductors working concentrically. Therefore, the physical therapist assists the patient through Quadrant One in abduction. Usually the patient can perform part, or all, of Quadrant Two in both directions without assistance. As strength increases in Quadrant Two adduction will appear in Quadrant One and with practice, become complete in this Quadrant. By this time flexion and extension are usually well established in the side-lying position, and the patient may use this to advantage. He is shown that he can carry the arm up through flexion and lower it through adduction. With practice in the clinic and at home, strength increases and the patient is

Figure 5 (Left)

Abduction { *Quadrant One—A to B*
Quadrant Two—B to C

Adduction { *Quadrant Two—C to B*
Quadrant One—B to A

urged to attempt voluntary motion in Quadrant One in abduction. Motion usually appears readily in this Quadrant and soon becomes complete. Abduction and adduction can now be performed voluntarily in this position. At this time abduction and adduction exercises in the supine position are discontinued and all exercises are performed side-lying. Flexion and extension, abduction and adduction should be performed in good form with the injured shoulder held secure directly above the one on the table (not drifting backward to simplify the movement). When Exercise Four and Exercise Five can be performed fifteen consecutive times, three to five times daily, the patient is ready for the most difficult and final group.

EXERCISE 6. Flexion and Extension. Patient Standing. (See Figure 6.)

In this position the shoulder is in the least advantageous position for stabilization, for upon the teres minor is placed the burden of supporting the shoulder from below and holding secure the fulcrum around which the levers operate to produce motion. The deltoid must support the shoulder from above and also function as an agonist through all four motion Quadrants (through Quadrants One and Two in flexion working concentrically, and through Two and One in extension working eccentrically). Motion in the final and most difficult position can be acquired by the following method:

The patient is requested to raise both arms forward; in the injured arm only a small arc of motion may be present. When motion falters give the patient the wand, he may then support and raise the injured arm by means of the uninjured one as he did in the supine position. The patient can now easily carry the injured arm through the 180-degree-flexion arc, and lower it through the extension arc to the starting position. The patient will soon perform these two movements easily with the wand. He is now ready to begin using the flexors working eccentrically in the increased extension arc. Here the same technic with the wand is used. The patient raises the injured arm through the complete flexion arc by means of the wand held in the hand of the uninjured arm. When the arm has completed the flexion arc and is being held at the perpendicular he again tries to perform a few degrees of extension without the wand. As in the supine position the supporting arm can be lowered slowly, close to the injured arm, and ready to aid if necessary. With practice the few degrees of unaided extension will increase gradually until the complete 180-degree arc of extension can be performed unaided by the

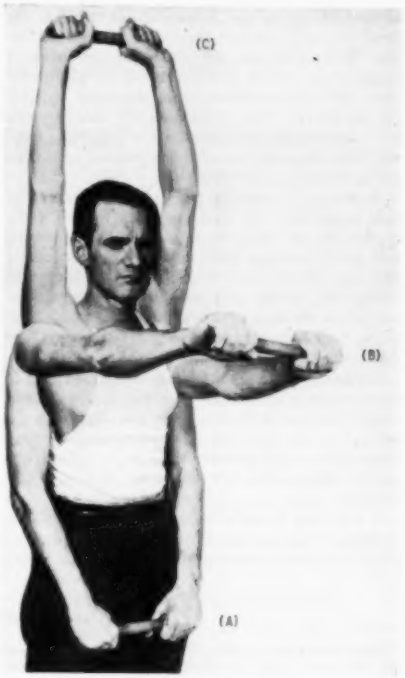

Figure 6

Flexion { *Quadrant One—A to B*; *Quadrant Two—B to C*

Extension { *Quadrant Two—C to B*; *Quadrant One—B to A*

wand. When this complete arc can be performed easily fifteen consecutive times three to five times per day, motion will appear in the arc performed by the flexors functioning concentrically. This small arc will gradually increase until the entire 180-degree-flexion arc is complete. When flexion and extension are complete in the standing position, exercises in the side-lying position are discontinued.

EXERCISE 7. Abduction and Adduction. Patient Standing.

Abduction and adduction are performed with the aid of the physical therapist until the flexion arc can be performed voluntarily by the patient. When the flexion arc is complete, the arm may

be carried up to the perpendicular through the flexion arc and lowered through the arc of adduction. This again uses the abductors first working eccentrically. When adduction can be performed easily fifteen consecutive times abduction will begin to appear. This abduction arc will improve and increase until the full range of motion is present. The program that changes passive motion to active motion is now complete.

Although the exercise program is considered of vital importance the well known technics for the application of mild heat, electrical stimulation, and gentle massage have not been abandoned. If pain and stiffness are present, mild heat is applied before the exercise program. Electrical stimulation and gentle massage are always applied at each visit of the patient to the clinic after the exercises have been observed and evaluated.

Frequently marked limitation of motion due to contractures accompanies a nerve injury. These simple exercises will in no way interfere with the well known technics for eliminating pain or overcoming the contractures which limit full passive motion through the 180-degree arc of flexion and abduction.

It has been found that many axillary nerve injuries will respond satisfactorily to this treatment. These simple exercises which may be performed by the patient unaided by the physical therapist permit movement of the shoulder joint and activity of the muscles long before they might function otherwise. For the home exercise program no equipment is necessary except a small wand that may be cut from a broom handle.

Satisfying results with this exercise program are usually obtained. The restoration of motion alone is gratifying and in addition the period of convalescence is shortened.

SUMMARY

The problem presented by axillary nerve injury is one of weakness. Two muscles are unable to produce sufficient power to equal load demand, and this prevents the accomplishment of normal tasks.

The key to the solution of this problem is load itself. It may be manipulated advantageously, for it can be decreased or increased at will. First it is decreased until muscle power and load demand are matched, then load demand may be increased and muscle strength permitted to absorb this increase step by step until muscle strength is equal to the load demand of normal tasks.

The authors are indebted to the photographer, Mr. Elmer Zeigenfus, of Fotomart, Philadelphia, Pa., for the pictures themselves, and for his valuable and understanding assistance in many other ways.

Meet Our New Contributors

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Mr. Schleichkorn was a counselor at Camp Oakhurst 1947, 1948, and 1949, and as a physical therapy student took part in the student training program there in 1950. In 1951 he returned to Camp Oakhurst as physical therapist. Mr. Schleichkorn is also physical therapist at the Federation of the Handicapped, New York City. His paper on camping for the orthopedically handicapped was written while studying under a scholarship of the National Foundation for Infantile Paralysis.

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Camping for Crippled Children—I

Organization of a Physical Therapy Program

Jacob S. Schleichkorn, M.A.

The purpose of this paper is to cover the organization of a physical therapy department and program in a summer camp for orthopedically handicapped children. Camping for the handicapped has gained steadily, as has camping in general. The development of camping for the handicapped from a service for 200 children thirty-two years ago to today's accommodations for 6,000 is accompanied by a new camping philosophy. No longer regarded as a mere ritual of transporting city children to the country for a change in scenery, camping today is an important group living experience which contributes to the social, emotional, and physical growth of the child. This is applicable to all phases of camping. A valuable experience for any child, camping is even more important to the physically handicapped child, who because of illness, hospitalization, and immobility may have been cut off from the normal experiences of child development.

As specialized camps developed, it was inevitable that specialized services should be incorporated into the total camp program. Physical therapy, one of the most important of these special services, should be a primary consideration in the organization of a camp for orthopedically handicapped children, and should be provided if recommended by a child's physician. In many instances outdoor general exercises and camping activities can be substituted for a definite prescription. Some doctors recommend a break from the formalized routines of physical therapy; others prefer the continuance of physical therapy during the summer, believing that children who need this treatment often respond better to care by strangers than by their own parents. The attitude of those in the environment have a great effect on a child in encouraging him to overcome his limitations. Richards has stated that, "more than any other, a camp environment with its varied stimuli, elicits a natural desire upon the part of the child to overcome his physical limitations which hinder his complete participation in camp life." In a camp where the staff offers guidance and encouragement, a child will often attempt to do more than he would in a less personal situation. With these premises, we establish the bases for the development of a physical therapy program and department at a camp for orthopedically handicapped children.

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MEDICAL ADMINISTRATION

The medical facilities of any well governed camp should include a full time professional nurse and a part time or full time physician. The amount of equipment and personnel necessary to maintain the health of the camp will depend upon many factors such as the number of children, ages, sexes and camp sites. Every camp should have a doctor who resides on the camp grounds or who may be called from the local community. A camp with an enrollment of fifty or more should endeavor to have a resident doctor. All camps should be near competent medical consultants and good hospital accommodations. Before the camp opens for the season, contacts should be made with medical facilities so that not more than thirty minutes are necessary for the arrival of an ambulance or specialist. In addition to the medical director and nurse, there should be a qualified physical therapist, working under medical supervision. The medical director may be a specialist in orthopedics or physical medicine or one who is familiar with all the various problems the handicapped child presents. When the medical director is available, the physical therapist is responsible to him for carrying out technics and other matters relating to physical therapy. It is his responsibility to guide

An outdoor sandbox standing table encourages two children to play while supported in locked braces.

the physical therapist in the entire program. If a group of physicians are assigned to visit the camp on different days as consultants in problems arising from the activities on the part of some camper, adjustment of braces, swimming periods, and so forth, this medical advisory committee should delegate to the physical therapist, under the general supervision of the camp director and physician, the complete responsibility for all physical treatments and care of braces, orthopedic apparatus and shoes. The nurse and the physical therapist must understand the importance of working together. Situations may arise in which the nurse may find a child who cannot wear braces due to some irritation. The nurse should inform the physical therapist about the child's condition so that his program can be planned according to his medical needs.

Another aspect of camp administration is the relationship of the physical therapist to the executive director. The therapist should confer with him regularly regarding the welfare of the campers. If no medical director is present, the physical therapist has the added responsibility of reporting their medical needs to the executive director. The physical therapist should not be asked to assume responsibilities not legally his and should not accept a position in a camp until the policies regarding the medical direction have been clearly defined by the camp authorities.

PHYSICAL THERAPY PERSONNEL

The administrative staff must arrange for sufficient physical therapists, depending upon the number of children to be treated. A supervising physical therapist should be a graduate of a school approved by the American Medical Association. If possible, he should have two to three years experience in physical therapy and some experience in camping with the handicapped. The supervisor must have a knowledge of physical disabilities and be able to interpret the needs of children to the entire staff at camp. The staff physical therapist also should be a graduate of an approved school with an interest in children and camping. Both should possess a pleasant and understanding attitude toward children and be able to work cooperatively with people. If the state in which the camp is located requires licensing or registration of physical therapists, these requirements must be fulfilled.

THE PHYSICAL THERAPY PROGRAM

The physical therapy program should have three main objectives:

1. To further the physical treatment of the camper toward independence.
2. To integrate the principles of healthful living and physical activity into the camp program.
3. To guide and assist the staff in working with the handicapped child.

In any program, the procedures and technics vary; however, the following technics are outlined for a suggested physical therapy program:

1. Table work: for muscle reeducation, strengthening, testing, stretching and relaxation.
2. Mat work: most suitable for small groups doing general conditioning exercises.
3. Locomotor activities: crutch walking, independent walking on the grass, on roads, on concrete walks, and in buildings.
4. Standing tables: for the child who needs braces locked and cannot maintain his own standing balance. The two-section standing table allows two children to face each other and stand supported with braces locked for long periods, offering an opportunity for play.
5. Functional work: this may be carried out at all times in various activities. For example, during dressing, the children can be shown how best to help themselves. Sitting positions can be corrected. Walking on crutches may be practiced going to and from an activity. The physical therapist must instruct the staff to assist in similar situations.
6. Recreation: group games should be organized and adapted to meet the needs of the handi-

capped child. The physical therapist, in choosing recreational activities, can motivate as well as demonstrate participation in group games. The adaptations of physical education activities for the handicapped should be familiar to the camp therapist. Group games can include many of the required exercises and turn them into happy play. In order for the children to gain from the experience, group work must be well planned and well organized. Referring to handicapped children and adapted sports, Stafford states, "Allowing for their defects, the teacher should give the opportunity to perfect skills in adapted recreational activities, which they may enjoy now and throughout their many years after they leave schools. Health and the possible correction of defects should be concomitants of physical education. Adapted sports tend to satisfy the above needs." This seems to apply to the physical therapist at camp as well as to the teacher in a school.

TREATMENT SCHEDULES

In a camp where more than one physical therapist is present, scheduling of the children for therapy allows for an equitable distribution of work. Often it is difficult to maintain a schedule as various activities in camp interfere with the physical therapy program, but a skillful physical therapist will motivate the child to come for his treatment. The actual prescription may include aspects of occupational therapy which the physical therapist must carry out; however, the camp program would benefit by having both services available. From camping experience I have found that one physical therapist can give an average of seven treatments daily; thus, in a week the child can receive three treatments of approximately twenty-five minutes each. One physical therapist will find it difficult to serve more than fifteen children a week if a schedule is to be maintained. This will vary according to prescription and will depend on whether or not an attendant brings the children to the therapist. Some treatments require no more than ten to fifteen minutes, and children with similar disabilities may be taken in small groups. Time must be allotted for demonstrations to the staff as well as for arranging recreational activities. Therefore, actual scheduling for treatment will depend upon the number of children to be treated, the length of the treatment period, how the children are brought to physical therapy and the number of physical therapists available.

DUTIES

There are duties other than actual treatment which should be the responsibility of the physical therapist. Before the camp season starts, these duties should be discussed with the camp director as part of the initial interview. The physical therapist then can analyze the position, and plan the physical therapy program more adequately.

The physical therapist should be concerned with manual dexterity and the activities of daily living.

One of the most important duties in camp is the arranging of a seating plan for the dining room. This may not be difficult in a small group, but it does present problems when many handicapped children need assistance in feeding. The physical therapist should arrange the seating plan so that the dependent children are helped by a counselor or student therapist. The staff should be rotated every few days. There should be special utensils and demonstrations of various technics used in feeding. The person feeding the child should be shown how to teach and encourage self-help. The physical therapist cannot do all the training and must rely on the cooperation of a well informed staff.

There is probably no other situation in the field of physical therapy in which the care of equipment and appliances is of such importance to a child as in camp. Because of a faulty brace or needed repairs of a special shoe, a child may miss beneficial activities. This need not occur if the condition of the children's appliances is the

responsibility of the physical therapist. Braces must be checked daily for loose bolts and screws. They must be oiled regularly and kept free from dirt and sand. Shoes should be examined nightly and repaired when necessary. This is especially important in cases where the child hops or drags a foot. Wear and tear cannot be prevented and therefore the physical therapist should be sure that the camp has made arrangements with a repair service. Camp Daddy Allen of Pennsylvania reports a total of 131 shoes repaired in the summer of 1950. Arrangements should be made with competent brace makers for emergency service to speed the return of braces needing extensive repairs. (Minor adjustments can be made by the physical therapist in camp.) In the summer of 1951 at Camp Oakhurst, New Jersey, it was necessary to send three pairs of braces into New York City for repair. If arrangements are made for quick service the child will not have to spend long periods in a wheel chair unnecessarily. The physical therapist should observe also the condition of wheel chairs. The tightening of a screw may save further repair and keep the chair in use. These responsibilities are as important as actual treatment and, though delegated to the physical therapist, the entire staff should be alerted to recognize repair needs and report them to the physical therapist.

EQUIPMENT

The amount of equipment necessary for a physical therapy program will depend upon the size of the camp and the number of children to be treated. At Camp Oakhurst where approximately thirty-five children receive physical therapy each camp month, the equipment is designed for outdoor and indoor use in a functional and rehabilitation program. In line with the philosophy of camping most of the treatments are given outdoors, weather permitting. This should be the procedure in any camp for the handicapped. During inclement weather, the physical therapist should have a small building in which to give treatments. From experience in Camp Oakhurst, the following equipment is suggested for a physical therapy department:

Two sets of parallel bars
A double standing table
Three small tables with chairs
One or two treatment tables
A set of steps
A full length mirror

Similar equipment should be available for indoor and outdoor use. In addition there should be floor mats, sandbags, wooden puzzles, various toys, sports equipment, crutches and canes, and some tools for brace repair. "Aside from the usual equipment found in most clinics, Oakhurst offers such things as bicycles, scooters, swings, slides, a jungle gym, pushcarts and carriages. These are immensely important and useful aids in securing active cooperation in therapy." Recreational equipment can be used as a main source of therapy. Camp Wawbeek, Wisconsin, suggests as therapeutic measures the use of such sports as archery, shuffle board, swimming, ping-pong, volleyball and gymnastic appliances. Regardless of the type of equipment used, the physical therapist should be responsible for its condition. Outdoor equipment must be protected from the elements. Repairs should be made by the camp maintenance crew upon the request of the therapist. In order to prepare for the next camping season, the physical therapist should report whatever additional equipment, replacements or repairs will be necessary for a successful physical therapy program.

REPORTS

The physical therapist is responsible for writing a comprehensive report on every child who received physical therapy. Included in this report should be the number of treatments given, the appliances or equipment the child had, the prescription, the treatment plan, progress notes, a summary, suggestions and remarks. These reports are often valuable to social work agencies in assisting the child, and may be used by the child's physician. It also offers the next physical therapist a record of what the child was able to accomplish. In most camps, the staff members also write a report on the children. Although this report is not actually limited to the child's physical abilities, the physical therapist should be available to assist the staff by interpreting the handicap. The child may not have received treatments from the physical therapist during camp but the physical therapist should be acquainted with all the children nevertheless.

The physical therapist also writes a report for the director. It should include the total treatment days, the number of children receiving physical therapy, total number of treatments, a summary of the program, a review of the student training program if applicable, suggestions and recommendations for the next season's program. This report will serve as an evaluation of physical therapy and how it was integrated into the total camp picture.

The physical therapist should meet with the registrar or camp secretary in order to complete a statistical report listing the diagnosis of all campers. The classification by diagnosis should be

included in the director's report to the board or the organization operating the camp. As an example, the following is the statistical report from Camp Oakhurst for 1951.

Cerebral Palsy	99
Brachial Paralysis	2
Congenital dislocation of hip	3
Congenital deformities	3
Congenital anomalies	1
Poliomyelitis	46
Osteomyelitis	2
Tuberculosis of the knee	1
Tuberculosis of the spine	1
Spinal fusion	1
Carcinoma-paraplegia caused by malignant tumor of lower spine	1
Perthes disease	3
Muscular dystrophy	2
Arthrogryposis	1
Coxa Plana	2
Fracture—leg	1
Not determined	1
Total	170

RELATED RESPONSIBILITIES

Cooperation between the physical therapist and the staff is of vital importance if the objectives of the program are to be attained. The director should see that the staff members clearly understand the responsibilities of the therapist. This can best be accomplished by a precamp training program in which the entire staff participates. What and how much a camp may do in the training of its staff between seasons depends on many factors, such as the degree of competence and experience possessed by the staff, the rapidity of turnover in staff, and the availability of the staff for training sessions. It is the practice of many camps to have some type of precamp training session. In a camp for orthopedically handicapped children, the physical therapist must be given sufficient time to fully acquaint the staff with the principles and objectives of physical therapy. "During the first week of preparation the therapist, having previously obtained all pertinent information concerning the campers, acquaints the counselors with the various types of disabilities and physical limitations. General information is given about braces or any other orthopedic equipment, their use, and care. Methods of handling children, lifting, turning, raising from the ground, and getting in and out of wheel chairs, is demonstrated in order to prevent injury or strain to staff members as well as children." (Kinoy) The success of the program may depend upon the assistance given by the staff.

Soft ground and a kind word from the physical therapist allay the fears of the child in preliminary crutch walking.

The relationship of the physical therapist to the child must be sincere in order to gain his confidence and encourage him to come for physical therapy. Unless there is a good rapport between the therapist and the child, the experience of receiving therapy at camp will not be successful. The child will not want to leave a well motivated camp activity because the physical therapist says it is time for his treatment. It may take several visits to the physical therapy area without receiving treatment before a child becomes aware of the therapist's intentions and feelings. To establish this necessary rapport, it is suggested that the therapist spend time with all the children. The physical therapy department at camp cannot be opened only from nine to five. The physical therapist must be available at any time to assist when problems arise. It may be at seven in the morning, during dressing, that a counselor has difficulty with a brace. The most reassuring thing to a child seems

to be seeing the physical therapist around to help the counselors. In the evening at bedtime, the physical therapist should be available to assist with night braces, answer questions and receive any complaints from the children regarding braces. It is this interest that the therapist takes in every child during times other than physical therapy periods, which gains the respect and admiration of all the children.

STUDENT TRAINING PROGRAMS

In reviewing several camp reports, it has been noted that student physical therapists are available for training at some camps. In the summer of 1950, there were three student therapists at Camp Oakhurst, one at Camp Daddy Allen, Pennsylvania, and one at Camp Easter Seals, Pennsylvania. If there is proper supervision, this type of affiliation offers an excellent opportunity to the student therapist. For this reason, any camp that intends to have students should be able to offer the utmost supervision in the therapy program. The affiliation at camp must be a teaching and learning experience for the student. The services of the student should not be to merely augment the staff in handling the physical needs of the campers. When registered physical therapists are available, one should be employed to carry out most of the definitive treatments while the supervisor should be able to devote time and effort to the students in a training program. This student program should include the orientation of the camp's philosophy as well as the various technics used. The student should affiliate with a camp only in his senior year. Training at camp offers more than practical work since living with handicapped children offers an opportunity to observe their behavior almost continuously. In a clinic or hospital, a physical therapist sees a child for a short period during the day, while at camp he has the chance to observe how the treatment is carried over into activities. With the heterogeneous grouping of handicaps at camp the student becomes familiar with the limitations presented by various disabilities. The actual training program will vary with the supervisor but it should include demonstrations and discussions as well as practical work. There should be definite assignments and responsibilities given to the student under the guidance of the supervisor. A properly planned and supervised training program can be a rich experience to a student physical therapist.

In conclusion, the decision as to whether a physical therapy program is instituted will depend upon the medical directors, and whether the camping period is sufficiently long enough to include therapies. It has been said that there is no need for a physical therapy program in a camp in which children stay for short periods, such as two weeks; however, the entire camp program would benefit if the staff included a qualified physical therapist. In camps to which the children come for periods of four to eight weeks, programs of speech, occupational and physical therapy are indicated.

In any camp for orthopedically handicapped children or adults, the physical therapist is afforded an opportunity not found in hospitals or clinics. The patient takes part in group living, during which time the therapist is able to observe him in various situations.

It is my wish that this paper serve not only as a basis for the organization of a physical therapy department and program in a camp, but also as an incentive for physical therapists, who have the opportunity, to investigate camping for the orthopedically handicapped.

Note: All photographs were taken at Camp Oakhurst, Oakhurst, New Jersey, New York Service for Orthopedically Handicapped, an affiliate of the Federation of Jewish Philanthropies.

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Camping for Crippled Children—II

Organization and Administration

Margery Bradley, A.B.

One of the most anticipated experiences of childhood is that of camping. Each year thousands of boys and girls look forward to living in the out-of-doors and having fun; this is no less a coveted experience for the crippled child. Often it is more appreciated and is a more valuable experience for the overprotected or rejected crippled child, because for a while he can forget his braces and crutches and become like other children. In camp he has a chance to express himself and compete with others. Due to long hospitalization, inability to move about easily, and overprotection, the crippled child is often denied the joys of activities in the open—hunting birds' nests, fishing, and "roughing it" by cooking over an open fire, and sleeping on the ground.

One of the best foundations for a well adjusted adult life is a happy childhood. Therefore, the first objective of a camp should be—to have fun. Camp is a vacation for the children and, although educational value can be derived, its primary purpose should be recreational, and its program should be flexible.

Camping removes parental influences from the child and gives him a chance to become more self-sufficient and self-confident. Often it is in camp that he learns how to make his own bed, to dress himself, and to do many things which were done for him at home. The camp also gives the parents a chance to be away from the child for a short while, which may mean a vacation for an overworked mother.

Camp provides group living for the handicapped child and makes him aware of how his actions affect the group. For a child who has been the center of attention, this is a much needed experience. He may develop a new attitude toward living. It is good for him to see others who have similar or even greater handicaps. When a child is the center of the family and receives much sympathy, he may think of himself as the *only* crippled child. How camping experience can change the attitude of a child is shown by the reaction of a twelve-year-old girl who was a double amputee. Although she had two artificial limbs, she had normal speech and upper extremities. On the last day of camp she said, "Gee, I'm glad I came to this camp. I didn't realize before that I'm not handicapped like these other children."

In a camp for crippled children the child may participate in activities in which he can compete, as games are adapted so successfully he does not experience the discouragement which he might meet in a camp for normal children.

A camp is an excellent place to evaluate the youngster's total rehabilitation program. There is an opportunity to observe him twenty-four hours a day and determine his requirements for physical therapy, dental care, and psychiatric aid. Reports may then be sent back to physicians and others who are contributing to his highest potential development.

There are many private camps for crippled children which are sponsored by the Rotarians, Elks, and similar organizations. In addition there are more than 75 camps for crippled children sponsored by state and local affiliates of the National Society for Crippled Children and Adults. Some 6,000 crippled children attend these camps each summer. Among these 75 camps, many are loaned, rented or owned. Camps maintained by the Kiwanis, Scouts, or YMCA are frequently loaned for varying lengths of time.

The major part of the funds for financing camping programs is provided by Easter Seal contributions, although many service clubs and other agencies contribute generously. It has been estimated that the average personnel and food cost of maintaining a crippled child in a special camp for one week is $22. Over-all investment and equipment costs are not available.

Most camps operate from two to three months annually. In order to provide more camping opportunities, some of the camps bring in a new group every two weeks. Longer camping periods, however, afford better establishment of rehabilitation.

The first essential for establishing a camp is, of

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course, a camp site. This should be selected for beauty as well as convenience since this is one of the main reasons for a camp. The place chosen should be dry and should have some shade. It must be free of insects and rodents and protected from fire hazards. For a crippled children's camp there must be additional considerations—not too many steep banks, smooth pathways for wheel chairs, absence of stones and other obstacles. It should be within thirty minutes reach of a hospital or physician to aid the camp doctor. It is not always necessary to have the camp on a water front. A swimming pool may be more desirable because the temperature of the water can be regulated. This is an advantage, especially for cerebral palsied children whose muscle tension is increased by cold water.

As for the arrangement of buildings, one must bear in mind that to children who are handicapped, distance is important. The dining hall, lodge, and infirmary should be easily accessible, and ramps should be provided for buildings.

Because of the highly specialized camping program, the staff must be carefully selected. There must be a ratio of at least one counselor to four campers. Staff lectures prior to the opening of camp will do much to prepare those who have not worked with handicapped children. As counselor and camper become acquainted understanding will develop. The staff, however, needs to know about various types of crippled children and precautions to be observed for each child in light of his particular handicap, medical history, and home environment. Conferences should be held during the season to discuss progress and specific problems related to the camper and his particular disability. Competent medical direction is essential to the operation of a camp of this type and, in addition to a full time physician, the staff should include a graduate nurse and qualified physical therapist. Under the physician's direction the nurse will, among other duties, be responsible for administering prescribed medications. The physical therapist will give treatments, determine with the physician each child's activities, and care for braces and other orthopedic appliances. A complete staff also should include a speech therapist.

Other staff members will require knowledge beyond their special skills. The water front director must be able to adapt swimming to the needs of the handicapped. If an occupational therapist is not employed, the craft leader should have guidance from the physical therapist.

Liberal personnel policies for the staff to provide adequate time off and recreation will reflect in the greater happiness of the campers.

Although some camps restrict admissions to less handicapped campers, most of them accept wheel chair cases and one may expect to find a wide range of diagnoses such as cerebral palsy, poliomyelitis, spina bifida, torticollis, asthma, and epilepsy.

The selection of campers in terms of a child's handicap and in terms of his ability to adjust to group living is of utmost importance. A period at camp should not be the child's first experience away from home as there are multiple other adjustments to be made, such as living with other children, becoming accustomed to the dark, and transition from city to country. Homesickness may be expected to last six or seven days but if it persists it may lead to deeper trouble.

Both campers and parents must be emotionally prepared for the temporary separation, and the child must feel that camping is a desirable experience rather than a rejection by the parent. He may be better prepared for this type of experience if he has first participated in group activities near home and then attended day camp.

The camp should require the parents to submit a health certificate signed by the family doctor giving the pertinent medical history of the child. For the protection of all this should include information relative to communicable diseases or recent exposure to them. As further protection for the camp authorities it is wise to have a legal release absolving the camp of liability for unavoidable accidents. At the same time the camp should be adequately insured against accidents within the camp.

With skillful guidance crippled children can participate in the popular activities of any camp. Adjustments can always be made to meet the abilities of the children. For example, the courts can be made shorter for shuffle board, bowling, or horse shoes, if wheel chair cases find it hard to play on a long court. Basketball racks may be lowered, and a lighter volleyball used for those children whose strength and muscular coordination is impaired. Similar adjustments may be made in other games. Dancing is usually a popular activity in camp. Most folk dances can be participated in by all including those in wheel chairs, if the music is slowed down, and there is plenty of space on the floor.

In planning activities in camp, it must be remembered that the child must come first always, and activities must be considered in terms of what they mean to him. Emphasis should never be on the finished product, but on what the child derives from the activity. This helps to decrease the strain of accomplishment or necessity to excel. Competition should be kept to a minimum: A child should

learn to swim because he enjoys it, and not to earn a badge. He should be encouraged to take initiative and leadership in planning and carrying out activities. In crafts, let him think up his own designs, and let him lead the songs and tell the stories around the campfire. This gives him a chance to express himself and become more self-reliant. The program should be flexible—for this is the child's vacation. Above all there should be an atmosphere of happiness. Most children come to camp with a positive attitude and it should stay this way.

From activities in camp a child derives many social, physical, and emotional benefits which aid him in his rehabilitation, and later help his adjustment to the society in which he lives.

Although the development of camping facilities for crippled children has increased from a meager service for 200 children in 1920 to today's record accommodations for 6,000, there are many more thousands of crippled children under 21 to whom no camp is available. The present camps receive more applications than they can hope to fill. Therefore, the goal should be to expand camping programs constantly until camping opportunities for crippled children are as numerous as they are for every other group of children.

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A New Design in Parallel Bars

Lucian J. Zadrozny

The past half century, and particularly the last ten years have seen ever-widening developments in the field of physical therapy with increasing emphasis on rehabilitation.

The stress now is on treatment of the individual as a "whole" rather than a "part." By utilizing residual capacities to maximum advantage, it has become possible for many of the severely disabled to become a functioning part of society.

Research has brought many improvements in the use of apparatus as well. Parallel bars, however, are one of the most basic and "taken-for-granted" devices used in physical therapy. When we consider how much we depend on them for assistance in strengthening the upper extremities and for early ambulation training, their importance becomes increasingly apparent. Even though their importance in rehabilitation is recognized, most conventional parallel bars have definite limitations:

The first and foremost limitation is the frequent absence of a means for adjusting the space between the bars to individual requirements.

A second drawback is the lack of a means for lowering the bars enough to accommodate small children.

A third limitation is the inability to handle more than a few patients at a time, thereby curtailing any activity involving a large group or groups.

Lack of provision for easy dismantling is often found to be another disadvantage.

These obstacles can be overcome, however, in a very simple and practical manner. As can be seen in the illustrations, the bars were designed for the purpose of offering maximum adaptability for patients of varying sizes and dimensions, children as well as adults.

Staff Physical Therapist, U. S. Naval Hospital, St. Albans, L. I., New York.

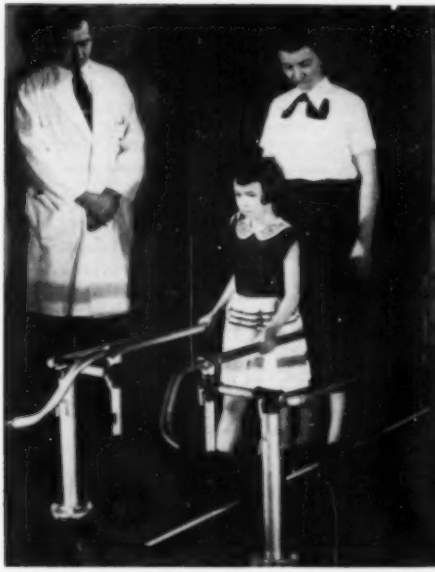

Figure 1

Figure 2

Features:

1.—The first and most important feature of the parallel bars is a provision for inward and outward adjustability.

2.—The second is the double "vertical" adjustment which permits the bars to be dropped very low to accommodate children and still be suitable for very tall persons. This, in combination with the first feature, permits individual proportionate adjustment.

This two-way adjustability provides the patient with maximum functional efficiency in the use of his arms, regardless of how tall or short he may be. The bars can be brought as close to the sides as desired. For example—Figure 1 shows a child 8 years of age and approximately 4 feet, 1 inch tall. In direct contrast to this, Figure 2 shows a man of above-average height who is 6 feet, 7 inches tall. Despite these two extremes, both are easily accommodated.

From the standpoint of mechanical advantage, it is easy to see why the best performance in "push-ups," "swing-throughs," etc., is obtained when the arms and elbows are kept fairly close to the body. This factor can be fully appreciated only by the severely disabled person first starting out on the road to rehabilitation.

3.—The third feature, an outside bar on each side, provides the following advantages: It makes possible the accommodation of more patients, and at the same time gives them a greater "continuous" walking distance. By having two bars on either side of the walking platform, it is possible for patients with several types of disabilities to use them simultaneously, thus saving time and still facilitating adequate supervision.

For example, paraplegics can use the inside bars while hemiplegics are using those on the outside. Where there is a very large hemiplegia class, the group can be divided into right and left-sided disabilities (one group using the inside bars while the other uses the outside bars), thus, they can begin to walk in opposite directions. Those patients inside the bars continue walking to the end of the platform and then, grasping the curved "handle-bar," go to the outside bar and complete the circuit. As soon as the platform is cleared, the patients originally outside the bars continue walking until they come inside the bars and then out again.

Another possible plan for ambulation is to

have each group stand on one side of the outside bars. They can enter the bars alternately, first the left group, then the right, and make their exit to the outside bars in the same manner.

The outside bar also provides a convenient place for performing standing exercises such as hip extension, forward "bends," etc., without interfering with the patients who are walking within the main bars.

4.—The fourth feature is the provision for easy dismantling.

Actually there are three sections combined to make one unit, 27 feet in over-all length. As shown in Figure 4, the bars and platforms are assembled in sections, the former being connected by threaded joints and the latter joined by removable, easily accessible slide-bolts. A close-up view of the manner of attaching the slide-bolt and circular rail-flange to the platform would show that the nuts holding the flange are placed on the surface for easy accessibility.

Should it become necessary to shorten the parallel bars, one or two sections can be dismantled as desired.

A few supplementary aids include a narrow wooden incline and a crossbar. The incline is hinged to the ends of the platform to permit easy entry and exit. Its narrowness permits the wheel chair to straddle it and rest against the platform, thus preventing creeping or rolling forward.

In order to facilitate safe, easy standing for patients wearing various types of long leg braces, a removable, adjustable crossbar placed on the platform prevents the patients from sliding or "skidding" forward as they raise themselves up out of wheel chairs. (See Figures 3. and 4.)

Figure 3

Grateful acknowledgement is expressed to Dr. Nila Kirkpatrick Covalt, Chief of Physical Medicine, Hospital for Chronic Illness, Rocky Hill, Conn., and Dr. Hubert F. Manuzak, U. S. Naval Hospital, St. Albans, L. I., N. Y., for their cooperation.

The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large. (Art. 113 (2) U. S. Navy Regs.)

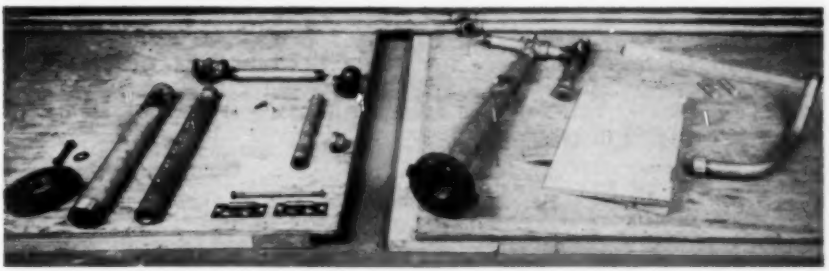

Figure 4

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Our Book Reviewers for June

Jane Carlin, Associate Professor, University of Pennsylvania School of Medical Auxiliary Services, Philadelphia.

Frances Hellebrandt, M.D., Head, Department of Physical Medicine and Rehabilitation, University of Illinois, Research and Educational Hospitals, Chicago.

John H. Kuitert, Lt. Col., MC, Chief Physical Medicine, Army Medical Center, Walter Reed General Hospital, Washington, D. C.

William D. Paul, M.D., Associate Professor, Internal Medicine; Director of Physical Medicine, University of Iowa General Hospital, Iowa City.

Florence Phenix, Coordinator, Nursing and Physical Therapy, Milwaukee Visiting Nurse Association.

Oscar Selke, Jr., M.D., Medical Director School of Physical Therapy, Hermann Hospital, Houston, Texas.

Catherine Warren, Chief Physical Therapist, Clinical Supervisor, Peter B. Brigham Hospital, Boston.

Janet A. Wessel, Assistant Professor, Department of Physical Education for Women, University of Maryland, College Park, Maryland.

Editorials

DURING THE 1952 Conference in Philadelphia the House of Delegates will be called upon to make several important decisions regarding changes in the Bylaws and Code of Ethics of the Association. The proposed bylaw amendments appeared in the May issue of the *Review* in order to provide ample opportunity for every member to give them thoughtful consideration. It is sincerely hoped that every member has read and studied these changes so that each Delegate will come prepared to dispose of this business with a considered vote as instructed by Chapter membership.

Every organization finds itself in a position where the rules and regulations require change. This is particularly true in a group where rapid growth and expansion is occurring, for a static association reflects a lack of progress. The revisions, however, are ultimately the responsibility of the individual member and demand that member's detailed attention as to what is best for the entire profession.

Each of these proposed revisions is a result of much thought and hard work on the part of various committees throughout the year. Many of the changes have come about as a direct result of requests from the membership. Some have been proposed as a result of experience which revealed a need for change, but we are convinced that no alteration has been made without serious discussion of the eventual effect of such change.

The fact remains, that even minor adaptations of an association's bylaws directly affect every person in that group. It is therefore imperative that each of us consider carefully the result that any revision will make in our eventual professional growth. Too often we tend to slide into the comfortable and easier role of saying "Me, too" without fully understanding all of the implications—only to find later that our thoughtless agreement led to dissatisfaction.

May we, therefore, urge each one to spend the short time it takes to understand what is being changed, and then take a part in instructing the Chapter delegate intelligently. Consider your decision from the view of the best possible outcome for your profession, your colleagues, and yourself so that the eventual decisions will mean progress and growth.

Annual dues were payable on May 1st. Your prompt response will be appreciated.

May we also call to your attention that according to the Bylaws "any active member not actively employed in physical therapy may, on application to the Executive Committee and on approval thereof by the Committee, be made an inactive member."

Sir Charles Sherrington

His death on March 4 at the age of 94 marks the passing of one of the world's greatest scientists, and one who laid the foundations of our knowledge of the functioning of the brain and spinal cord.

The British Medical Journal states, "His classic *Integrative Action of the Nervous System* (1906) is still a source of inspiration to physiologists all over the world; it was reprinted as recently as 1947 for the first post-war International Congress of Physiology. His work did for neurology what the atomic theory did for chemistry. Neurones were shown to be the functional units of the nervous system, and their orderly interaction on one another through synapses—a term he invented—formed the basis for understanding of reflex action and of many common clinical conditions, such as tabes dorsalis and hemiplegia. He received many honours, including the Order of Merit in 1924, and in 1932 the Nobel prize in physiology and medicine jointly with Dr. E. D. Adrian.

"In 1891 Charles Sherrington was appointed professor and superintendent of the Brown Institution in succession to Victor Horsley. This was a veterinary hospital (destroyed during the 1939-45 war) intended for the prevention of cruelty to animals, and Sherrington was able to experiment on the animals under the terminal anaesthesia which was humanely and mercifully destroying them. Now at the age of 34 he began his classical researches by making a systematic study of the effects of cutting the dorsal and ventral spinal nerve roots in cats, dogs, and monkeys, discovering their segmental distribution and mapping the sensory dermatomes, which are similar in monkey and man. He found also that one-third to one-half of the nerve fibres passing to a skeletal muscle are sensory nerves, and not all motor nerves as hitherto assumed, and that they were linked to the muscle spindles previously described by Golgi. This was the discovery of a new sense, proprioception, and led to the understanding of tendon reflexes such as the knee-jerk, and the classification of the pathological physiology of such diseases as tabes dorsalis, where the spinal tracts carrying the proprioceptor impulses are damaged. It led on, also, to the study of the reciprocal innervation of antagonistic muscles and their reflex interactions—work now a commonplace of elementary teaching in every medical school. A second line of work was the precise mapping of the motor area of the cerebral cortex in monkeys, with the effects of stimulation and ablation of different parts of it, which led to the understanding of decerebrate rigidity as the free play of lower brain centres released from cerebral control, and hence to the explanation of the signs of hemiplegia.

"This work was continued and developed when Sherrington moved to the Holt chair of physiology at Liverpool in 1895. Much of it was brought together and interpreted in the *Integrative Action of the Nervous System* (1906), henceforth a classic. In 1913 he left Liverpool for the Waynflete Chair at Oxford, and took up the more detailed analysis of individual reflexes, in particular the stretch reflex by which the tone of an individual skeletal muscle is maintained in response to stimuli from the stretch sense organs in its own substance. This and much other work was summarized in *Reflex Activity of the Spinal Cord* (1932), written jointly with his collaborators, J. C. Eccles, E. G. T. Liddell, D. Denny-Brown, and R. S. Creed. He retired from the chair in 1936, at the age of 79.

"*The Integrative Action of the Nervous System* provided above all a set of concepts by which the nervous system could be understood. In his Gifford lectures, published as *Man on His Nature* (1940; second edition with bibliography of all his writings, 1947), Sherrington expanded his philosophical outlook to consider the place of mind in the universe. This discussion was partly historical, and part of it was further elaborated and considered in *The Endeavour of Jean Fernel* (1946). The elaborate care with which these books were written illustrates his interest in words, which found another expression in the writing of poetry, some of which was published in 1925 in *The Assaying of Brabantius*. The reading of Spanish literature was a by-product of his expedition of 1885, and he had a wide acquaintance with many literary by-paths, and with painting and architecture.

"Very many honours and distinctions came his way. He held honorary doctorates of 21 universities throughout the world, and was an honorary fellow, member, or associate of over 40 academies."

Association Activities

The Director Reports:

March 30—Chicago, Illinois. Meeting at the Palmer House to discuss revision of the physical therapy and occupational therapy curricula with the Advisory Committee on Education, Council on Physical Medicine and Rehabilitation, and the Council on Medical Education and Hospitals of the American Medical Association.

Present were Doctors Elkins, Bennett, Kendall, Meade, Zeiter, Advisory Committee on Education; Dr. Ralph De Forest and Mr. Carter, Council on Physical Medicine and Rehabilitation; Doctors Anderson and Arestad, Council on Medical Education and Hospitals; Mrs. Kahmann, Misses Fish and Messick, American Occupational Therapy Association; Misses Singleton, Hewitt and Elson, American Physical Therapy Association; and Mrs. Augustin, Executive Secretary, American Registry of Physical Therapists.

The discussions were general and exploratory, and another meeting is planned for June 14.

March 31—Chicago, Illinois. Fifteen minute television appearance on "Assembly," arranged by Captain Gerard, WMSC, upon request of the Illinois Chapter. Peggy Shaber and Mildred Elson adlibbed on recruitment with an interviewer.

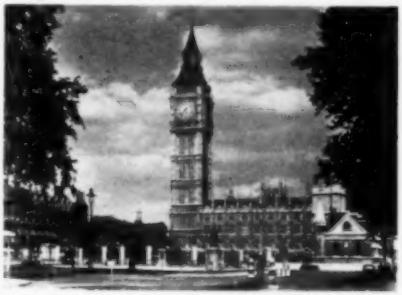
April 4 and 5—Toronto, Ontario. First combined Canadian Occupational and Physiotherapy Association Annual Meeting at the Royal York Hotel, and 32nd Annual Meeting of the Canadian Physiotherapy Association.

It was a unique experience to be an observer at the business meeting of a sister association. Problems appear to be almost identical. Personnel policies, legislation, shortages, need for more schools, more teachers, better distribution (there is a concentration in the larger cities), need for additional funds, scholarships, etc. all were discussed in annual reports and by members.

The general program reflected the "combined" concept with a physician, a physical therapist, and an occupational therapist presenting their contributions to the care of the patient. Dr. Temple Fay was to be the speaker at the banquet but, unfortunately, the weather closed in and he was unable to land.

It was good to see old friends again: Miss Spence, President of the Canadian Physiotherapy Association, who attended our conference in Boston and in Cleveland, and was at the organizational meeting of the World Confederation for Physical Therapy in Copenhagen; Miss McMurrich, who has attended many of our conferences and visited departments in the states; Miss Pollard, Chief Instructor in Physical Therapy, University of Toronto; Mrs. Vatcher, Mrs. Duncan Graham, Mrs. Vincent Price, Miss Healy, who arranged for the first commercial exhibit at the meeting—to name a few. I was also fortunate enough to have a talk with Mr. Vincent Price, Honorary Counsel of the Canadian Physiotherapy Association, who is working on a registration law for physical therapists in Canada.

(Continued on page 314)



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World Confederation for Physical Therapy

The first World Congress will be held in London, September 7-12, 1953. It is hoped that there will be a good number present from the American Physical Therapy Association. Plan your 1953 holiday now with London in mind and tour those far off places you always wanted to see. You will have friends in most of them, which will make your trip even more enjoyable. If any of you are planning now to go, please let me know. The program is being planned and we'd like to have every association in the World Confederation represented on it.

You can shop in Europe and get all your Christmas presents. Exchanges are favorable to us in many countries. Think it over and plan *now* for London in 1953.

MILDRED ELSON, *President*
World Confederation for Physical Therapy

LT. COL. HARRIET S. LEE LT. COL. EDNA LURA

New Physical Therapy Chief Appointed

Major Harriet S. Lee of the Women's Medical Specialist Corps and Vice-president of the American Physical Therapy Association, was sworn in as chief of the Physical Therapist Section of the Corps and promoted to the rank of Lieutenant Colonel on April 1 at Fitzsimons Army Hospital, Denver, Colo.

The new chief took the oath in the presence of Brigadier General Paul I. Robinson, Commanding General of the hospital and Colonel Emmett Smith, MC, Chief of the Physical Medicine Consultants Division, Office of the Surgeon General. Colonel Lee, who replaces Lieutenant Colonel Edna Lura, now retired, is expected to arrive in Washington, D. C., sometime this month.

Colonel Lee is a graduate of Ohio Wesleyan University with a B.A. Degree in physical education. She completed the Army physical therapy course at Walter Reed Army Hospital in Washington, D. C., in 1929 and served as staff physical therapist at that hospital for the subsequent two years. Colonel Lee then went into civilian practice until 1942 when she returned to the Army, this time as chief of physical therapy at Fitzsimons Army Hospital.

Colonel Lee served in the Office of the Army Surgeon General in Washington 1946 to 1950. She subsequently returned to Fitzsimons Army Hospital as chief of physical therapy.

Colonel Lura was chief of the Physical Therapist Section of WMSC from August 1948 until she retired from the Regular Army on March 31, 1952. She had been associated with the Army Medical Service for 22 years. Colonel Lura is presently residing at Roland, Iowa.

A graduate in physical education from the Iowa State Teachers' College at Cedar Falls, Iowa, Colonel Lura taught in schools of Wisconsin, Kansas, and Iowa before matriculating as a student in the physical therapy course at Walter Reed Army Hospital. Upon completion of this course in 1930, Colonel Lura served at the Army and Navy Hospital, Hot Springs, Ark., where she remained until 1943. From 1943 to 1945 she was in charge of the Physical Therapy Branch in the Office of the Army Surgeon General in Washington.

In 1945 Colonel Lura went to Manila as chief physical therapist for the Southwest Pacific Area and later moved to Japan when American Army headquarters were established at Tokyo. Colonel Lura returned to Washington in 1948 to become the first chief of the Physical Therapist Section of the Women's Medical Specialist Corps.

DIRECTOR REPORTS

(Continued from page 312)

On Monday, Mrs. Curtis Millar, Executive Secretary-Treasurer, took me on a personally conducted tour of departments—Lyndhurst, for paraplegics and other severely disabled; the new Sick Children's Hospital; Sunnydale, veterans hospital; and the "Huts," where the school of occupational and physical therapy is housed. In Canada now, the occupational and physical therapy students are combined into one class. There is a great deal of interest and enthusiasm for this "combined" course on the part of the physicians and faculties of both schools—University of Toronto, and McGill University. It appears to be meeting the needs for Canada, and we shall continue to watch its progress with great interest.

Our Canadian colleagues made me feel "at home," and it was a pleasure and privilege to be with them at their very excellent meeting. It is hoped that we shall be able to welcome many of them at our Annual Conference in Philadelphia.

Nomination Change

We regret to announce that Edna Blumenthal has had to withdraw her name from the slate of officers. The nominating committee, therefore, is nominating Clara Arrington as Secretary instead of Director. No additional candidate is offered as Director.

Index to Current Literature

Anterior Poliomyelitis

The Management of Acute Poliomyelitis. Joseph L. Muenster, M.D. Journal of the Missouri State Medical Association, March 1952.

Special Care for the Patient with Bulbar Poliomyelitis. Frederic J. Kottke, M.D. Journal of the Missouri State Medical Association, March 1952.

A Comparison of the Clinical Features of Poliomyelitis in Adults and in Children. Louis Weinstein, M.D. and others. New England Journal of Medicine, February 21, 1952.

The Relation Between Recent Injections and Paralytic Poliomyelitis in Children. Morris Greenberg, M.D. American Journal of Public Health, February 1952.

Poliomyelitis: A Nursing Challenge. C. F. Bowers, M.D., and Margaret Bruns, R.N. Nursing World, February 1952.

Bone and Joint Diseases and Injuries

Painful States of the Shoulder and Arm: Diagnosis and Treatment. Robert C. Bassett, M.D., and Sylvester J. O'Connor, M.D. Journal of the Michigan State Medical Society, January 1952.

Cerebral Palsy

Hypotonic Cerebral Palsy in Mental Defectives. Herman Yannet, M.D., and Frank Horton, M.D. Pediatrics, February 1952.

General Management of the Cerebral Palsy Problem. W. M. Phelps, M.D. Virginia Medical Monthly, February 1952.

Face Your Problem Squarely If Your Child Has Cerebral Palsy. M. Y. Russ. Crippled Child, February 1952.

Child Welfare

Iowa Builds a New Hospital School for Physically Handicapped Children. W. B. Schoenbohm. Exceptional Children, February 1952.

The Volunteer in the Crippled Children Program. D. T. Langdon, R.N. Connecticut Health Bulletin, State Department of Health, February 1952.

School Housing for the Crippled Child. Romaine Mackie, Ph.D. Crippled Child, February 1952.

Prepare Your Child for Speech by Training Speech Muscles Through Feeding. Dorothy Unger. Crippled Child, February 1952.

Chronic Diseases

Complete Home Care for Patients with Long Term Illness. Chronic Illness News Letter, Commission on Chronic Illness, February 1952.

Physical Medicine Plus Cortisone for Rheumatoid Arthritis. G. M. Martin, M.D. and others. Journal of the American Medical Association, February 16, 1952.

Miscellaneous

Treatment of the Common Cold with Special Reference to the Antihistamine Drugs. W. T. Cooke, M.D. British Journal of Physical Medicine, February 1952.

Civil Defense from a Health Officer's Viewpoint. H. D. Chope, M.D., Dr.P.H. American Journal of Public Health, February 1952.

Orthopedics

Recent Advances in Orthopedic Surgery. Henry Briggs, M.D., Daniel B. Eck, M.D., and Harold T. Hansen, M.D. Journal of the Medical Society of New Jersey, February 1952.

Peripheral Vascular Diseases

The Present Status of the Treatment of Frostbite. Harris B. Shumacker, Jr., M.D. Angiology, December 1951.

Recent Advances in Surgery for Obliterative Arterial Disease. Gerald H. Pratt, M.D. Angiology, December 1951.

Rehabilitation

Rehabilitation of the Hemiplegic Patient. Joe R. Brown, M.D. Minnesota Medicine, February 1952.

Rehabilitation of the Lower Extremity Amputee. Lewis Dickar, M.D. Bulletin, Medical Society of the County of Kings and Academy of Medicine of Brooklyn, February 1952.

Use of Painting in Rehabilitation of Tuberculous Patients. A. Ray Dawson, M.D. Archives of Physical Medicine, March 1952.

Rehabilitating the Tuberculous Patient. K. W. Hamilton, February 1952.

Conference 1952

Ye Bellevue-Stratford
Philadelphia, Pennsylvania
June 23—28, 1952

Final Call for Conference

Hotel Reservations

There is still time. Reservation blank in the April and May *Reviews*. Your attention is called to the fact that singles are in short supply. Please try to double up with someone or ask the hotel to make arrangements for you.

Business Meetings and Program Schedule (See April or May *Review*)

Banquet—Dress, informal.

Opening Session—Do not miss the panel discussion on physical therapy education, Monday night with Mr. Basil O'Connor, President of the National Foundation for Infantile Paralysis, as moderator. The panel participants are Robert Bennett, M.D., Howard Rusk, M.D., Jessie Wright, M.D., Thomas Murdock, M.D., member Board of Trustees of the American Medical Association, and Carlyle Jacobsen, Executive Dean, University of the State of New York. Here is our opportunity to hear the experts on such questions as—Is physical therapy education producing the personnel with the knowledge and skills required today? What about the shortage—does it endanger quality in efforts to obtain quantity? Are physical therapists' professional skills and knowledge being utilized to the fullest extent?—and others. Be there at 8:00 sharp.

Instructional Courses

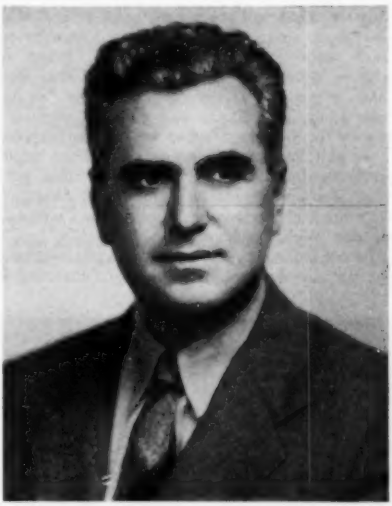
No more reservations are being accepted since all have their maximum number.

Sargent Grads to Meet

Sargent graduates will enjoy a get-acquainted hour at the Bellevue-Stratford on Wednesday evening, June 25, during the reception prior to the banquet.

All Sargent alumnae are cordially invited to join this reunion party and meet old and new graduates from 6:00 to 7:15 P.M. Plan to be present.

Conference Program Speaker



HERMAN KABAT, M.D.

Dr. Herman Kabat, who is going to present "Proprioceptive Facilitation Technics for Treatment of Paralysis," is best known to physical therapists as Medical Director, Kabat-Kaiser Institutes for Neuromuscular Rehabilitation.

Dr. Kabat received his B.S. degree from New York University, his Ph.D. from Northwestern University, and his M.D. from the University of Minnesota. He was Fellow in Neurology and Fellow in Anatomy at Northwestern University; Instructor in Physiology and Assistant Professor of Physiology and Neuropsychology at the University of Minnesota.

He is a member of many medical and scientific societies, including American Physiological Society, American Association of Anatomists, the Association for the Advancement of Science and the Congress of Physical Medicine.

The Philadelphia Gazette Vol. 6

Welcome Reader: For such a Greeting seems a most Appropriate one since we are about to have the Honor of your Presence in our Town. Great is the Excitement and the Turmoil hereabouts in Preparation for the Great Event and even Poor Richard seems to be most Expectatious of your Coming. He has spared no Effort in Proclaiming through the streets all Manner of News and Information regarding the Pleasure which awaits you.

We most Humbly do suggest that your Arrival be so Planned as to arrive in good time for the Mug-Up. Here will you see the many Friends who now most anxiously await you and partake of much Jollity and Good Fellowship. Truly we wish to Whet your Curiosity with all that shall come to pass at that Time but, Alas, our Pen has been pledged to Silence that your Astonishment may be the Greater. Mayhap we may be Forgiven if we only Suggest that Strolling Musicians might perchance be Evidenced and further that your Throats so dusty from the Road will be Assuaged. No more shall be Divulged, but do you Come and be most Welcome here.

Be not led Astray so far as to imagine that only one Surprise shall greet your Eyes and Ears. Much more is there for your Enjoyment planned and for your Pleasure contemplated. In your Honor shall a great Feast be held with all Manner of Delicacies and Victuals there Provided that you may know of our Native Succulants. Gay Bunting and most Pleasing Decorations shall you see Adorning the Hall while Gentlemen and Ladies of High Regard and Fame will be there Present to extend you Greetings.

All is now Prepared and we do most Impatiently await your Coming. Tarry not along the Way but come Post Haste to join the Pleasant and Interesting company here to be Assembled. Poor Richard promises a Cordial Welcome and an Agreeable Sojourn in this well-named City of Brotherly Love.

Courtesy of the Chamber of Commerce

Liberty Bell, Independence Hall, Philadelphia

Chapters Exhibit at Conference

The following chapters have requested space for exhibits at the annual conference. Be sure to visit and study these exhibits to get ideas for your chapter projects.

1. Northern California—Physical Therapy; the Training, the Work, the Need.
2. Southern California—Chapter Directory: A Means of Stimulating Better Interprofessional Relations.
3. Georgia—Let's Consider Physical Therapy for Your Career.
4. Illinois—Poster Material Used for Education and Recruitment.
5. Eastern Missouri—Physical Therapists of Missouri—At Your Service.
6. New York—Aids in Ambulation for the Hemiplegic.
7. North Carolina—Physical Therapy in North Carolina.
8. Texas—Good Relations—Physicians and Physical Therapists.
9. Washington—Washington's Building.

Correction

Lt. Col. Edward B. Shires and Capt. Mildred Anderson of the Valley Forge Army Hospital will present a lecture-demonstration on Electromyography in the Electrical Evaluation Course. It was erroneously reported in the May *Review* that Dr. Herbert Shapiro would be the instructor.

Membership News

Marriages

Major Dorothy Locke of Ft. Campbell, Ky., now Major Dorothy L. Brasil, Ft. Campbell, Ky.

Captain Grace M. Heltman of MacDill Air Force Base, Fla., now Mrs. Grace H. de Aguiar, Sheppard Air Force Base, Texas

Evelyn J. Weed of Detroit, Mich., now Mrs. Evelyn J. De Mars, Detroit, Mich.

Dorothy E. Mitchell of Minneapolis, Minn., now Mrs. Dorothy M. Farmer, Minneapolis, Minn.

Avis G. Goldstein of Boston, Mass., now Mrs. Avis G. Feldman, Boston, Mass.

Christine Lutz of Wilmington, Del., now Mrs. Christine L. Fortunato, Wilmington, Del.

Barbara M. Gawthrop of Kennett Square, Pa., now Mrs. Barbara G. Hallowell, Metuchen, N. J.

Joan K. Olness of Tacoma, Wash., now Mrs. Joan O. Haskell, Tacoma, Wash.

Ella Janet Keys of Iron Mountain, Mich., now Mrs. Ella K. Hervey, Iron Mountain, Mich.

Elizabeth Fisher of Vallejo, Calif., now Mrs. Elizabeth F. Husted, Vallejo, Calif.

Roberta Brown of Tacoma, Wash., now Lt. Roberta B. Johnson, Tacoma, Wash.

Sheila M. O'Neill of Framingham, Mass., now Mrs. Sheila O. McDonaugh, Malden, Mass.

Sara J. Nusbaum of Milwaukee, Wis., now Mrs. Sara N. Miller, Racine, Wis.

Mary C. Hopkins of S. Palo Alto, Calif., now Mrs. Mary H. Montalbo, S. Palo Alto, Calif.

Rayline M. Cairns of Wauwatosa, Wis., now Mrs. Rayline C. Nagel, Milwaukee, Wis.

Joan L. Bell of Lakewood, Ohio, now Mrs. Joan B. Newman, Lakewood, Ohio

Lucille Johnson of Arcata, Calif., now Mrs. Lucille J. Nordquist, Arcata, Calif.

Betty McComb of Palo Alto, Calif., now Mrs. Betty M. Northam, Menlo Park, Calif.

Mildred Koscak of Chisholm, Minn., now Mrs. Mildred K. Rolle, Chisholm, Minn.

Marjorie Earle of Atlanta, Ga., now Mrs. Marjorie E. Skinner, Chicago, Ill.

Mary J. Blair of San Francisco, Calif., now Mrs. Mary B. Snyder, San Francisco, Calif.

Joan Zsupnik of Los Angeles, Calif., now Mrs. Joan Z. Spielman, Los Angeles, Calif.

Atha Lighty of Middletown, Pa., now Mrs. Atha L. Stein, Camden, N. J.

Mrs. Fannie Johnson of Flint, Mich., now Mrs. Fannie W. Stone, Flint, Mich.

Phyllis Bussiere of Rocky Hill, Conn., now Mrs. Phyllis B. Sulima, Northfield, Vt.

Dorothy Paxton of Hines, Ill., now Mrs. Dorothy P. Triyillo, Durango, Colo.

Augusta Rojaks of New York, N. Y., now Mrs. Augusta R. Whitman, Dallas, Texas

School News

University of Iowa

A student member, William O'Malley, writes that he has recruited two students of physical therapy for next year's class. If only one-fourth of our members did as well, our shortage would be met.

New Student Members

Boston University

Carolyn J. Hall

Columbia University

Leonard E. Berman
Arnold Brown
Rodney T. Buckham
Nicholas Cammelieri
Albert G. Midwood
Anna Stirn
James K. Woodworth

Mayo Clinic

Anita B. Roisum

University of Kansas

Billie R. Davis
Shirley Ann Craytor
Suzanne Hoyt
Betty Jean Lewis
Marilyn M. Champion

Boston University, Sargent College of Physical Education

In June, 1951, twenty-nine students were graduated with a B.S. degree, and all became members of the American Physical Therapy Association. Today those graduates are employed as follows:

Hospitals	
General	6
Special	6
Children's	1
Veterans Administration	6
Rehabilitation Centers	2
Cerebral Palsy Centers	2
Polio Care	1
Physician's Office	2
Homemaker	1
Unknown	2

New Life Members

The following are now Life Members of the Association:

Marion Beytes—North Plymouth, Mass.
Mrs. Winifred Willard—Hamden, Conn.

General News

New England Health Institute

The Eighteenth New England Health Institute will be held at the University of Connecticut at Storrs, June 18-19-20, 1952. The theme of the meeting is "New Efforts for Health Improvement."

Sponsors of the Institute are various state, university, and voluntary health agencies, and the United States Children's Bureau and Public Health Service. The following meetings will be of particular interest to physical therapists.

Wednesday morning, June 18—Medical Facilities and the Older Worker

Wednesday afternoon, June 18—The Handicapped Worker

Thursday morning, June 19—Rehabilitation of Medically Handicapped Workers for Gainful Occupation

Thursday afternoon, June 19—Role of the Local Health Department and Others in the Community Control of Chronic Diseases

Friday morning, June 20—Disease Control

Friday afternoon, June 20—Planning for the Care of the Patient

Reservations should be sent by May 31 to Mr. Carlson E. Crane, Box U-56, University of Connecticut, Storrs, Conn.

Dr. John C. Nunemaker Receives Appointment

Dr. John C. Nunemaker has been appointed to the position of Chief of the Research Division, Research and Education Service, Department of Medicine and Surgery, in Washington, D. C. He was Chief of Medical Service at the Veterans Administration Hospital in Salt Lake City and Assistant Professor of Medicine at the University of Utah, College of Medicine.

Dr. Nunemaker has been active in research, one of his chief interests having been in arthritis. After finishing his internship in 1939 at Peter Bent Brigham Hospital in Boston, he served as a Fellow in Medicine at Johns Hopkins University for two years and here was interested in pleuropneumonia research. At the University of Michigan in 1941 he was Resident of the Chest Service for a time and then Instructor and Research Associate in the Arthritis Research Unit.

Dr. Nunemaker is a Diplomate of the American Board of Internal Medicine and a member of the American Rheumatism Association.

Annual Meeting of National Health Council

Any community that needs better health services —and what community doesn't?—needs a health council, speakers at the National Health Council's recent annual meeting agreed. Dr. Thomas D. Dublin, National Health Council executive director, defined a health council as:

"A voluntary association of individuals and organizations representative of the entire community which concerns itself with (a) discovering and evaluating the health problems and needs of the community, (b) planning and promoting the development of health services and activities to meet those needs, and (c) coordinating and improving existing health services and activities so as to bring about more effective utilization of the community's health resources."

Through the health council, it was shown, the doctor, the nurse, health officer, and other professionals can team up with the housewife, the farmer, the worker, and the businessman, to work for community health.

The meeting, held at the Hotel Roosevelt, New York, March 13-14, drew an attendance of 278 lay and professional leaders of local, state, and national health organizations from all over the country.

Its theme was: "What's in the Health Council Idea?" The consensus was: "It works!"

Institute Offers Seminar on Rehabilitation

A Seminar on the Rehabilitation of Children for physicians is offered by New York University Postgraduate Medical School, Department of Physical Medicine and Rehabilitation, on May 19 through 23, October 20 through 24, 1952, and January 19 through 23, 1953.

The Course is open to all physicians and will be of particular interest to pediatricians. Tuition —$30. Application and requests for further information may be addressed to Dr. George G. Deaver, Director, Children's Division, Institute of Physical Medicine and Rehabilitation, 400 East 34 Street, New York 16, N. Y.

Dr. Dean W. Roberts Appointed Director of Commission on Chronic Illness

In Baltimore, Maryland 13,000 persons in 4,000 families will be surveyed and tested in a study of chronic disease and needs of the chronically ill to be made there by the national Commission on Chronic Illness, under the direction of Dr. Dean W. Roberts. Dr. Roberts will assume his new duties as staff director of the Commission on July 1, and the Commission's office headquarters will be moved from Chicago to Baltimore at that time.

The Commission was founded in 1949 by the American Hospital Association, American Medical Association, American Public Health Association, and the American Public Welfare Association.

The Baltimore study of chronic disease among city-dwellers is a companion to a previously announced study among the rural population in Hunterdon County, New Jersey. Medical results of persons in the test groups found to be chronically ill will be evaluated to estimate their needs for medical care and related services. The studies are expected to reveal significant information on the extent of chronic disease present in both the urban and the rural population.

The studies will provide first-time answers to these questions for each of the population areas: What is the extent and kind of need for chronic illness care in hospitals? What skills and equipment are needed to provide this care? How much and what kind of services are needed to care for child and adult long term patients in their own homes, and homes for the aged? How many chronically ill persons would benefit from rehabilitation? What kind and how many services and skills would be needed to provide rehabilitation services in a community? in hospitals? in community centers? in sheltered workshops? The studies also will test the usefulness of present knowledge about multiple screening for detecting chronic diseases in the early stages. Data will be obtained on the prevalence of chronic disease among apparently well people.

Dr. Roberts and the Commission staff will begin in Baltimore a series of studies, planned to cover several years, of medical services and facilities needed by the chronically ill. In addition to the field studies in Baltimore and Hunterdon County, the Commission will report on the status of state and local services and facilities for the chronically ill. Surveys are directed to general hospitals, state health departments, state medical societies, community welfare planning councils, nursing organizations, state welfare departments, and nursing homes.

Plan Summer Camps Now for Handicapped Children

Handicapped children have as much right to the fun of outdoor camp life as children without handicaps, Dr. Katherine Bain, associate chief of the Children's Bureau, Federal Security Agency, says.

Dr. Bain declares that if a handicapped child's physical condition allows him to participate in enough of the camp program to become a part of it, he should be considered for camping programs.

Sending handicapped children to a camp to share experiences with children without handicaps has worked well in various places. For instance, in Connecticut the handicapped children's program was geared to that of the other campers as nearly as possible.

They had separate sleeping quarters, but joined regular campers for meals and shared with them the responsibility for daily camp chores and other camp activities, Dr. Bain reports.

Before the children were selected for the camp, a nurse, a physical therapist, and a medical social worker from the Connecticut State Department of Health, as well as members of the Connecticut Society for Crippled Children and Adults, Inc., spent time at the camp, acquainting the staff with the children's needs. A counselor with experience in teaching and directing recreational programs for handicapped children was added to the camp staff.

The educational, recreational and social experiences that go along with summer camping may be even more important to handicapped children than to those who are physically normal, Dr. Bain says.

A physically handicapped child goes to camp for the same reason as any other camper. He may want to try his ideas, learn new skills, be with his friends and make new ones. With the help of understanding camp counselors, he can learn to make his way in the camp, Dr. Bain believes.

Some children cannot understand physical limitations which they do not have, however. The way in which nonhandicapped campers behave toward a physically handicapped child may greatly affect the kind of camp experience each will have, Dr. Bain cautions.

But if a nonhandicapped child learns to work and play with a physically handicapped child, he may benefit a great deal in accepting and understanding differences.

Schools of Physical Therapy

APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS
OF THE AMERICAN MEDICAL ASSOCIATION

Graduates of these schools are eligible for membership in the American Physical Therapy Association.

Name and Location of School	Medical Director and Technical Director	Entrance Requirements	Length of Course	Classes Start	Certificate, Degree, or Diploma
CALIFORNIA					
[1]**Childrens Hospital Society,** Los Angeles (in affiliation with University of California, Los Angeles)	Samuel S. Mathews, M.D. Mary J. Dodge	a[3]-b[3]-d-e g[4]	14 mo 4 yrs	Sept	Certificate Degree
[1]**College of Medical Evangelists,** Loma Linda	F. B. Moor, M.D. R. Wm. Berdan	a-b-c-d-e g	15 mo 4 yrs	Sept	Certificate Degree
[1]**Univ. of So. California,** Los Angeles	Charles L. Lowman, M.D. Charlotte W. Anderson	a-b-d-e g[4]	14 mo 4 yrs	Sept Sept-Feb	Certificate Degree & Cert.
[1]**Univ. of California Medical School,** San Francisco	Lucile M. Eising, M.D. Margery Wagner	d-e g	12 mo 4 yrs	Sept-Feb	Certificate Degree
[1]**Stanford Univ.,** Palo Alto	Wm. Northway, M.D. Lucille Daniels	a-d-e-f g[4]	12 mo 4 yrs	Jan-June or Sept	Certificate Degree
COLORADO					
[1]**Univ. of Colorado Medical Center,** Denver	Harold Dinken, M.D. Dorothy Hoag	a[3]-b-d-e g[4]	12 mo 4 yrs	Sept	Certificate Degree
ILLINOIS					
Northwestern Univ. Medical School, Chicago	Emil D. W. Hauser, M.D. Gertrude Beard	a-b[3]-d-e	12 mo	Oct	Certificate
IOWA					
[1]**Univ. of Iowa,** Iowa City	W. D. Paul, M.D. Olive C. Farr	b-e	12 mo	Sept	Certificate
KANSAS					
[1]**Univ. of Kansas School of Medicine,** Kansas City	Donald L. Rose, M.D. Ruth Monteith	a-b-d-e g[4]	12 mo 4 yrs	Feb-Sept	Certificate Degree
MASSACHUSETTS					
Bouve-Boston School, in affiliation with Tufts College, Medford 55	Howard Moore, M.D. Constance K. Greene	g[4]	4 yrs	Sept	Degree
Simmons College, Boston	{Wm. T. Green, M.D. {Arthur L. Watkins, M.D. Shirley Cogland	a[3]-b-d-e g[4]	16 mo 4½ yrs	Sept	Diploma Degree
Boston Univ., Sargent College of Physical Education, Cambridge	Kenneth Christophe, M.D. Adelaide McGarrett	a-b-d-e f-g[4]	12 mo 2 or 4 yrs	Sept	Certificate Degree
MINNESOTA					
[1]**Univ. of Minnesota,** Minneapolis	Frederic J. Kottke, M.D. Ruby Green Overmann	d-f-g[4]	2 yrs	Sept	Degree
[1]**Mayo Clinic,** Rochester	Earl C. Elkins, M.D. Darrell Hunt	a-b-c-d-e	2 yrs	Sept	Certificate
MISSOURI					
[1]**Washington Univ. School of Medicine,** St. Louis	Sedgwick Mead, M.D. Beatrice F. Schulz	f-g[4]	2 or 4 yrs	Sept	Degree
[1]**St. Louis Univ. School of Nursing,** St. Louis	A. J. Kotkis, M.D. Sr. Mary Imelda	f-g[4]	2 or 4 yrs	Jan-Sept	Degree

Name and Location of School	Medical Director and Technical Director	Entrance Requirements	Length of Course	Classes Start	Certificate, Degree, or Diploma
NEW YORK					
Albany Hospital, Albany (in affiliation with Russell Sage College, Troy)	John W. Ghormley, M.D. Catherine Graham	a-b-d-e g[4]	12 mo 4 yrs	Sept	Certificate Degree
[1]**Columbia Univ.,** New York	Wm. B. Snow, M.D. Floy Pinkerton	a-b[3]-e f	12 mo 2 yrs	Sept	Certificate Degree
[1]**New York Univ., School of Education,** New York	George G. Deaver, M.D. Elizabeth C. Addoms	a[3]-b[3]-d-e g[4]	12 mo 4 yrs	Sept	Certificate Degree
NORTH CAROLINA					
[1]**Duke Univ., School of Medicine,** Durham	Lenox Baker, M.D. Helen Kaiser	a[3]-b[3]-d-e	15 mo	Oct	Certificate
OHIO					
[1]**Cleveland Clinic,** Cleveland	Walter J. Zeiter, M.D. Mildred Heap	a-b-d-e	12 mo	Oct	Certificate
PENNSYLVANIA					
[1]**D. T. Watson School of Physiatrics,** Leetsdale	Jessie Wright, M.D. Kathryn Kelley	a[3]-b[3]-d-e	12 mo	Oct	Diploma
[1]**Univ. of Pa. School of Auxiliary Med. Serv.,** Division of Physical Therapy, Philadelphia	George M. Piersol, M.D. Dorothy Baethke	e g[4]	12 mo 4 yrs	Sept-Feb Sept	Certificate Cert. & Degree
TEXAS					
[1]**Hermann Hospital,** Houston	Oscar O. Selke, Jr., M.D.	a-b-d-e	12 mo	Oct	Certificate
[1]**Univ. of Texas School of Medicine,** Galveston	G. W. N. Eggers, M.D. Ruby Decker	a-b-e d	12 mo	Jan	Certificate Degree
VIRGINIA					
[1]**Med. College of Va.,** Baruch Center of Phys. Med., Richmond (in affiliation with Richmond Prof. Inst.)	Walter J. Lee, M.D. Susanne Hirt	a-b-d-e g[4]	12 mo 4 yrs	Sept	Diploma Degree
WISCONSIN					
[1]**Univ. of Wisconsin Med. School,** Madison	Harry D. Bouman, M.D. Margaret Kohli	a-b-c-e-f g[4]	12 mo 4 yrs	Sept Sept-Feb	Certificate Cert. & Degree
U. S. ARMY MEDICAL SERVICE					
(a) **Medical Field Service School,** Brooke Army Medical Center, San Antonio, Texas, and	Charles D. Shields, Lt. Col., M.C. Agnes P. Snyder, Major, WMSC	e	12[2]	Mar-Sept	Certificate
(b) **Fitzsimons Army Hospital,** Denver, Colorado	H. B. Luscombe, Col., M.C. Harriet S. Lee, Major, WMSC	Completion of Medical Field Service School			
(c) **Walter Reed Army Hospital,** Washington, D. C.	John H. Kuitert, Lt. Col., M.C. Brunetta Kuehlthau, Major, WMSC	Completion of Medical Field Service School			
(d) **Letterman Army Hospital,** San Francisco	Raoul C. Psaki, Lt. Col., M.C. Emma T. Harr, Major, WMSC	Completion of Medical Field Service School			

Entrance Requirements

FOR ONE-YEAR COURSE

a = Graduation from accredited school of nursing.
b = Baccalaureate degree with major in physical education.
c = Two years of college with science courses.
d = Three years of college with science courses.
e = Baccalaureate degree with required science courses.

FOR TWO-YEAR COURSE

f = Two years of college with science courses.

FOR FOUR-YEAR COURSE

g = High school graduation.

Footnotes

[1]Male students admitted.

[2]12 months' course includes training at the Medical Field Service School and Fitzsimons, Walter Reed, or Letterman Army Hospitals. Apply directly to the Surgeon General, Department of the Army, Washington 25, D. C.

[3]Additional college science credits required.

[4]Advanced standing students accepted.

Please address initial correspondence to the School of Physical Therapy in the institutions listed. Tuition and fees will vary from school to school.

Abstracts

Physical Medicine Plus Cortisone for Rheumatoid Arthritis

Gordon M. Martin, M.D., Howard F. Polley, M.D., Thomas P. Anderson, M.D., Rochester, Minn. In JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 148:7:525, February 16, 1952.

Because of the recent interest in cortisone and corticotropin (ACTH) in the treatment of rheumatoid arthritis, physical medicine and other measures that are of proved value in the management of patients with rheumatoid arthritis have been slighted. The purpose of this study is to evaluate the relation of physical medicine to cortisone in the treatment of such patients.

"As the treatment with cortisone of increasing numbers of patients having rheumatoid arthritis has continued, it has become apparent that cortisone alone, as it is customarily used at present, does not always provide complete control of the disease. It is well recognized, as has been reported, that cortisone alone will relieve much of the pain and stiffness and will produce a decrease in the synovial inflammatory reaction. However, in order for many patients with rheumatoid arthritis to obtain maximal objective signs of improvement in articular function while receiving safe suppressive doses of cortisone, it is essential to utilize a program of treatment that includes physical medicine.

Two groups of patients hospitalized for rheumatoid arthritis were used in this study. One group received conservative treatment including physical medicine, adequate rest, salicylates, proper diet and, in some instances, special articular supports when indicated. The other group received similar conservative measures plus cortisone.

The physical medicine program consisted essentially of daily systemic heating for thirty minutes accomplished by the application of luminous infra-red bakers, by means of a hot tub bath with a water temperature of 102 to 104 F. or by a hot moist-air "fever cabinet," the latter two methods raising the patient's oral temperature to 100 to 101 F. The application of heat was followed by light to deep stroking and kneading massage of the affected extremities. The exercise program consisted of active and assistive exercise to attempt to increase the range of motion. When indicated, resistive exercises were prescribed to increase strength of muscles. Gait training made up an essential part of the exercise program of many of the patients, some of whom were taught to eliminate a limp, others how to get in and out of chairs, how to use crutches or canes properly, and how to determine the amount of walking or other activity that could be tolerated.

Eighty per cent of the group of 34 patients with moderate to severe rheumatoid arthritis treated with physical medicine and other conservative measures showed objective evidence of improvement in articular function and ambulation. Eighty-five per cent of the similar group of 54 patients who were treated with cortisone in addition to physical medicine and other conservative measures showed objectively improved articular function. Patients with rheumatoid arthritis who have limitation of articular function and who are receiving cortisone may benefit further by a carefully prescribed and supervised program of physical medicine. However, the physical medicine program must be carefully prescribed for each patient. Exercise tolerances vary widely, and the ability to progress from active assistive exercise to resistive exercise and increased ambulation needs to be carefully determined and regularly supervised.

Ultrasoundwave Treatment of Chronic Disorders of the Locomotor System

Arnold Sonnenschein, Vienna University, Orthopedic Department. In ANNALS OF THE RHEUMATIC DISEASES, 10:4:441, December 1951.

Treatment with ultrasoundwaves is the latest method of physical therapy to attract attention in many countries. Ultrasoundwaves, when properly applied, may diminish pain and reduce irritability of segmental nerve-endings. They may lessen the spasm of regional muscle-groups. When blood and lymph flow are mechanically improved, chronic inflammatory products can be removed and the process of healing encouraged. At the same time the fluid content of the tissues and their permeability is increased.

Since the therapeutic effect depends largely on mechanical influences, it is obvious that ultrasoundwave therapy is contraindicated in acute inflammatory conditions, where it would lead to reactivation and exacerbation.

One hundred fifty patients suffering from chronic conditions of the locomotor system were submitted to a test of the effectiveness of ultrasoundwaves. All had had treatment with various physical methods (mud packs, diathermy, short-wave diathermy, in some cases x-ray). In most cases, the patients were followed up for a period of one year.

Results of this study show that ultrasound treatment is a method which is successful in a number of disorders of the locomotor system, and which differs in principle from other physical modes of treatment owing to its characteristic mechanical way of action. Since dosage still is inaccurate and many of the effects are still unexplained, much further experimental and clinical work will have to be done before ultrasound can be more widely used in practice.

Standardization of Technical Training

F. H. Arestad, M.D., Chicago. In ARCHIVES OF PHYSICAL MEDICINE, 33:2:82, February 1952.

In the fields of physical and occupational therapy much has been accomplished—still there are many problems pressing for early consideration. Included in these is the need for additional information on the available supply of technical personnel so that more accurate knowledge may be at hand in considering shortages, recruitment, and further expansion of training. Based on this knowledge, effective planning may be instituted to alleviate existing shortages and insure a more adequate supply of technical personnel in relation to future needs. Consideration also must be given to the mounting requirements imposed by individual schools or by policies developed within the technical fields. If such requirements become excessive or if it is found that an adequate supply of technical personnel cannot be produced under present methods and facilities, it may become necessary to modify the existing pattern or depend in increasing degree on the development of subsidiary groups of junior technicians. Continued efforts should be made, nevertheless, to increase the opportunities for training, including the possible development of hospital schools in occupational therapy to

help overcome the critical shortage in this field. In this connection, it is urged that closer liaisons be established between the technical organizations and the corresponding medical groups so that in a full spirit of understanding the problems of the future may be worked out in the best interest of the public welfare.

Effect of Progressive Resistance Exercise on Muscle Contraction Time

Thomas I. DeLorme, M.D., Benjamin G. Ferris, M.D., and J. Roswell Gallagher, M.D., Boston, Mass. In ARCHIVES OF PHYSICAL MEDICINE, 33:2:86, February 1952.

The rapid clinical development of therapeutic applications of Progressive Resistance Exercise has far outstripped studies of the physiological responses to them. It is necessary to obtain basic knowledge of the physiological effects of Progressive Resistance Exercise so that questions such as its effect upon muscle bulk, speed of muscle contractions, etc., can be answered. Research by several investigators has already begun to add to our understanding of these matters.

The question as to whether Progressive Resistance Exercise, when used according to clinical practice, produces lengthening of contraction time is of significance to athletes, typists, dancers, and others whose efficient performance is dependent upon rapid movement. It also is of interest to trainers and to coaches of athletes in connection with such beliefs as that heavy exercise "slows down," "throws timing off," and makes athletes "muscle bound." Following intensive Progressive Resistance Exercise muscle fibers do hypertrophy, and it is possible that concomitant changes may occur in the muscles' viscosity which would alter the contraction time.

Two groups of subjects were used in this study: one group served as controls and did no exercise, while the other was given progressive resistance exercise.

Measurements of biceps circumference, thigh circumference and the one R.M. for elbow-flexion and knee-extension were taken on all subjects both before and at the end of the four months' exercise period, in order to determine whether actual changes in muscle strength and hypertrophy had been produced by the progressive resistance exercise.

Knee-extension and elbow-flexion contraction time was measured on all subjects in both the pre-exercise and postexercise period. At the end of their four months of exercise there was an increase in biceps and thigh circumference and a considerable increase in knee-extension and elbow-flexion one R.M. Those findings indicate that progressive resistance exercise as administered had effected a change in those muscles. The results of the postexercise contraction time tests offer no evidence that the progressive resistance exercise produced a slowing of contraction time in those subjects.

This study shows that progressive resistance exercise given in the manner usually employed clinically does not increase muscle contraction time. Additional studies of more individuals, utilizing exercises over a longer period of time so that greater increases in muscle hypertrophy can be obtained, are necessary in order to verify this tentative conclusion.

Rehabilitation of the Amputee

Henry H. Kessler, M.D., Newark, N. J. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 148:6:436, February 9, 1952.

Proper management of the amputee patient demands more of the physician than surgery alone. A systematic program of after-care of the stump, in preparation for wearing a prosthesis, has as its objectives the prevention of contractures and the development of strong, painless, and properly shrunk stumps. Traction is applied postoperatively to accomplish closure of the wound in open amputations and to loosen the skin closure in primary flap amputations. Proper bed posture is essential to prevent contractures, and the practice of putting a pillow or sandbag under the stump cannot be too strongly condemned. When the amputee has recovered from his operation, the physical therapist will institute a program of passive and active exercises, designed not only to improve the stump, but to provide physical conditioning of the entire body. Massage, which may be indicated to reduce contractures in old stumps, is strongly contraindicated for fresh or painful stumps.

Shrinkage of the stump is accomplished through the application of elastic bandages. The below-knee amputee can usually be taught to apply his bandages himself, but the above-knee amputee will require the assistance of the nurse or physical therapist.

Advanced preprosthetic training of the amputee will include instruction in crutch walking and hopping, in addition to general physical conditioning and specific stump exercises. A complete program of preprosthetic training, under the supervision of competent physical therapists, can easily mean the difference between poor and excellent adjustment to the artificial leg. The prosthesis should not be fitted until the stump is properly shrunk and free of pain and contractures.

Lame Back: Some Common Causes and Conservative Treatment

Frank R. Ober, M.D., Boston. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 148:6:438, February 9, 1952.

Ruptured nucleus pulposus is not the sole cause of lame back. There are many diseases of the spine and many outside the spine itself which may produce pain in the back. Treatment of the lame back per se depends on the acuteness of the attack, and is usually divided into four stages: (1) the acute stage, (2) the subacute stage, (3) the chronic stage, and (4) the rehabilitation stage. All this is based on the assumption that all conditions predisposing to low back pain which are not concerned with those causes which enter into the mechanism and physiology of the spine have been removed where possible.

In the acute stage, heat in the form of hot packs or a heat lamp at intervals of four to six hours for periods of 15 to 20 minutes often gives great comfort. If sciatic pain is present, a pillow under the knee relaxes the nerve and may help to relieve some of the pain. The patient should assume the position of greatest comfort. Sometimes continued and constant bed rest produces increased discomfort; in that case the patient should be allowed up for short periods, since the postural change seems to relieve pain.

When the very acute phase subsides gradually, but certain movements tend to increase the discomfort, the application of local heat plus gentle massage is beneficial. If there is no sciatic pain, the patient is taught to compress his buttocks slowly and firmly 25 times three or four times daily and to raise his head and shoulders off the bed or

table a short distance, holding this position for three or four seconds, repeating this 25 times three or four times a day.

In the rehabilitation stage, exercises to relieve the fascial contractures should be given but not if sciatica is present. Next, the anterior thigh structures should be stretched and, finally, the posterior leg contractures. When the acute low back symptoms have subsided, exercises to develop the corset muscles of the patient—that is, the gluteal and abdominal muscles—should be carried out until their function is normal.

As soon as these muscles have sufficient tone and strength more attention should be paid to correcting bad posture so that in time the physiological curves of the patient will be restored to normal.

A common exercise prescribed for lame back is to have the patient bend over. Lame backs often are caused by bending over. It would seem, therefore, that such an exercise should not be performed. Also, it does nothing to restore the physiology of the spine.

In cases of contracted spinal muscles following an attack, stretching these muscles may be accomplished in two ways. First, have the patient flex his knees and thighs, then grasp his knees with his hands and slowly flex his trunk, maintaining the position for 20 or 30 seconds and then relaxing, this maneuver to be repeated 10 or 15 times. Another method of stretching is to stand with the knees extended and bend forward, permitting the head and body to hang in a relaxed manner for a minute at a time for 10 or 15 times once or twice a day.

No exercise should be performed that causes discomfort. Finally, after contractures are removed and the corset muscles are normal, the posture must be restored in order to help prevent or at least minimize any future attacks.

Effects of Some Physical Therapies on Blood Flow

Barbara F. Randall, Ph.D., C. J. Imig, Ph.D., and H. M. Hines, Ph.D., Iowa City, Iowa. In ARCHIVES OF PHYSICAL MEDICINE, 33: 2:73, February 1952.

Plethysmograph and thermal measurements have yielded much valuable information concerning the effects of various physical therapies on blood flow. These methods for estimating the volume blood flow have an advantage in that they can safely be applied to the human subject but generally are unsuitable for conditions which require continuous measurements of slow and rapid changes in blood flow in absolute rather than in relative units. Accounts have been given, in previous reports, of the construction and use of an electromagnetic blood flow meter for measurement of volume blood flow through the vessels of laboratory animals. Although this method possesses a high degree of accuracy, it cannot be employed in studies on the human subject or in repeated studies on animals.

This study is concerned with the effects of several physical therapies on the volume blood flow through the hind extremities of adult dogs. The physical therapies used were massage, passive stretching, electrical stimulation and the application of hot foments. Measurements of blood flow were made in the femoral artery of both anesthetized and unanesthetized dogs. The studies were made on normal, denervated and spastic limbs.

Several conclusions were drawn as to the effects of these physical therapy measures upon the volume blood flow through the femoral artery of dogs:

(1) Massage proved to be an ineffective measure for increasing blood flow.

(2) Passive stretching caused a significant increase in blood flow in normally innervated and spastic but not in denervated limbs.

(3) Electrical stimulation of muscle results in an over-all increase in blood flow. The flow was diminished during tetanic stimulation but increased during the poststimulation period.

(4) The consecutive application of three hot packs to normally innervated limbs of anesthetized animals resulted in an increased blood flow. The increase in flow was not observed when the hot packs were applied to limbs treated with butesin. The increase in flow was greater in normally innervated than in denervated limbs. The hot foment treatments caused no significant increases in femoral arterial blood flow in normally innervated limbs of unanesthetized animals. The flow was increased significantly in denervated limbs of unanesthetized dogs.

(5) The question as to whether the increases in blood flow were able fully to compensate for the augmented metabolism resulting from increase in temperature and muscular activity is discussed.

Effectiveness of Different Forms of Heating

H. M. Whyte and S. R. Reader, Radcliffe Infirmary, Oxford. In ANNALS OF THE RHEUMATIC DISEASES, 10: 4:449, December 1951.

It is generally stated that diathermy and penetrating short-wave infra-red radiation are more effective for heating deep subcutaneous tissues than are the nonpenetrating rays of long-wave infra-red or the heat derived from direct contact, but there are few experimental studies on the extent of the difference involved.

Tests were made in the lumbar area of one subject on different days, and several interesting observations were made. The first is that the effectiveness of heating is practically the same with a contact method as with radiant heat from a dark source. Both of these methods are most useful for heating skin and, although tissues to a depth of 3 or 4 cm. are warmed, the methods are of little value for raising deep temperatures much above the temperature of blood. The results in the present study are not strictly comparable, since different degrees of heat were used, but it is unlikely that the effectiveness of the methods differ to any extent, as in both cases the heat is absorbed at the surface and then spreads inwards by conduction and convection. The same consideration will apply to all forms of localized heating applied to the surface, such as hot water bottles, hot water, wax and other substances, or electric pads or blankets.

The second point is the superiority of the tungsten-lamp radiation over radiant heat of longer wavelengths. This is largely attributable to the ability of short-wave infra-red radiation to penetrate skin. The results show also that both surface and deep temperatures can be maintained at a higher level with the same degree of comfort when the tungsten lamp rather than the dark-source radiation is used. This has been confirmed for a large series of observations in different subjects. The difference in intensities of the two lamps is largely due to reflection by skin of a considerable proportion of the tungsten radiation.

The third point is the usefulness of diathermy for heating muscle.

Finally, needle thermocouples, as used in the present investigation, can be recommended for recording deep temperatures and measuring the changes caused by different procedures such as the application of

heat or cold. The lumbar region has many advantages for a study of this type.

Practical Applications of Progressive Resistance Exercises

Arthur L. Watkins, M.D., Boston. In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 148:6: 443, February 9, 1952.

The purpose of progressive resistance exercise is primarily that of increasing strength. This technic is based on the sound physiological principle that one must contract against a resistance which calls forth a near maximal voluntary effort and that the resistance must be progressively increased in order to significantly and rapidly improve muscular strength or torque.

Experience has proved that in order to develop muscle strength by resistance exercises at an optimum rate, not more than approximately 30 repetitions of a single exercise each day are necessary. Although very heavy weight loads may be utilized in order to develop potentially strong muscles, such as the quadriceps, technics have been developed for exercising muscles of poor grade which are unable to move a segment of the extremity against gravity. This has been made possible by methods of counterbalancing or positioning, so that gravity assists the muscle in exercise.

In order to get proper results from this method of exercise, it is important that great attention be paid to all details of technic. This includes proper positioning and securing of the patient so that he can comfortably and safely exert a maximum effort. The apparatus used should be of sturdy construction, free of the danger of breaks in equipment, which could cause sudden strains. It also should allow for ease of operation by the therapist and should be standardized so that the same positions and resistances can be obtained from day to day. Years of research have been given to the design of equipment that is safe, efficient and easily operated. To use such equipment properly requires a period of training and experiences by the physical therapist and thorough familiarity by the physician in order to write a prescription properly.

This article describes some of the most valuable applications in everyday practice in the treatment of traumatic, neurological and medical conditions.

Treatment of Parkinson's Syndrome: Some Practical Considerations

Joseph C. Yaskin, M.D., Philadelphia, Pa. In THE PENNSYLVANIA MEDICAL JOURNAL, 54:12:1156, December 1951.

Parkinson's syndrome is a condition characterized by increased tone of the voluntary, and to a lesser extent, involuntary muscles, resulting in slowing up of various voluntary movements, and accompanied by characteristic changes in posture, gait, movements of the limbs, speech, and often accompanied by involuntary movements of a characteristic type. The course of the disease varies considerably. Some unilateral Parkinson cases may remain in a state of relative usefulness for many years. Others become markedly incapacitated in a short time. However, the prognosis and course of Parkinson's syndrome can and should be modified by well-considered management.

It has long been recognized that rest, so necessary in the treatment of many diseases, is not helpful in Parkinson's syndrome. The individual should be encouraged to keep up his usual physical activities, and he should be warned that immobilization in the case of Parkinson's disease is a part of a vicious circle. The physician should keep in mind that physical inertia is a part of the disease, especially so in postencephalitic Parkinsonism, where drowsiness is not uncommon. On the other hand, it should be remembered that violent physical exercise tends to increase muscle rigidity and should be discouraged. Physical therapy under the guidance of trained personnel is unquestionably helpful in preventing or at least retarding invalidism.

Neural Effects of Ultrasonic Waves

K. Stuhlfauth, M.D. In THE BRITISH JOURNAL OF PHYSICAL MEDICINE, 15:1:10, January 1952.

The local effects of ultrasonics are well known even though their mode of action is more complex than was originally assumed. Furthermore, in addition to their effects upon the tissue, upon which the ultrasonic waves actually impinge, indirect effects are being increasingly recognized and exploited in the therapeutic application of ultrasonics. Speaking quite generally these indirect or remote effects are largely produced via the nervous system either by action of the nerves upon ganglia or by a change in the conductivity of the nerve.

This article is concerned mainly with the demonstration and significance of such neurotrophic action. One of the most obvious neural effects of ultrasonics is represented by a vasomotor response. The examination of hyperaemic states produced by ultrasonic waves indicates that they are not elicited entirely by direct action upon the local capillary system but involve the cooperation of the arterial supply. These locally limited vasomotor effects represent the simplest of the indirect effects with which we are here concerned. Such local vasomotor responses are of course not sufficient to explain other empirically established remote effects.

While it must be concluded from extensive data that ultrasonic waves produce their effect very often through neural agencies, the nature of this effect is uncertain.

The high measure of success with ultrasonic treatment is granted only to the physician who personally gives ultrasonic treatment, and is not—as only too often happens—replaced by assistant routine personnel. Finally, technic with ultrasonic energy is not the same as with short waves, for in ultrasonic therapy the importance of exact dosing and exact aiming in the form of application cannot be overestimated, and it is to this end that ultrasonic treatment needs the constant presence of, supervision and correction by the physician.

Limited Excision of Dupuytren's Contracture

Edward Hamlin, Jr., M.D., Boston. In ANNALS OF SURGERY, 135:1:94, January 1952.

The surgical treatment of Dupuytren's contracture has evoked very little controversy during the past thirty years. There is almost complete unanimity of opinion as regards method and technic. Despite this, results are not always satisfactory and disability following operation too often prolonged.

It seems evident that the likeliest cause of stiff joints after operation is the degree of immobilization necessitated by the wide skin dissection without which the entire palmar fascia cannot be excised. At the present time, almost every author stresses the importance of complete

fasciectomy in order that recurrence of the disease may be obviated.

In order to test the validity of this reasoning, a small series of operations has been done by excising only the diseased fascia. When all the involved palmar fascia has been excised, and bleeding points carefully ligated with fine ties, the skin edges are approximated with precision and a pressure dressing of elastic bandage applied so that the fingers are not immobilized. The patient is instructed to use his fingers immediately, subject to the sole restriction of keeping his dressing dry. This dressing is removed at the end of 48 hours and a light dry gauze dressing used that will allow free motion of the entire hand. Stitches are removed between seventh and twelfth days. By the end of the third week there are no restrictions as regards activity. The immediate results are very satisfactory both to the patient and the operator. No physical therapy has been required for any patient as yet.

Daily Activity Testing in Physical Therapy and Rehabilitation

Morton Hoberman, M.D., Erbert F. Cicenia, M.A., and George R. Stephenson, M.A. In ARCHIVES OF PHYSICAL MEDICINE, 33:2:90, February 1952.

This paper does not attempt to be a complete treatment of statistical methods. It does attempt to present a unique format for the administration of a useful daily activity test and promote the system of grading and scoring employed. The discussion concerns a test generally used in the Physical Rehabilitation Section of the New York State Rehabilitation Hospital, West Haverstraw, New York, a description of its purpose, development, administration and the use of results.

The purpose of the test is to facilitate the training of patients in the essential activities of daily living by clearly indicating to the physician and therapist what the patient has accomplished to date and what remains to be achieved. This functional training involves the reestablishment of a lost function or the establishment of substitution for a lost function by teaching the patient to walk with braces and crutches, and to learn self-care by means of simplified technics. Included here are the objectives of learning how best to handle the body in overcoming the residual effects of the disability, and the efficient use of acquired strength and learned skills in practical everyday living, with a view toward complete independence and self-sufficiency.

In constructing the present daily activity test it was necessary to set forth certain criteria against which the final product could be evaluated. An ideal test would possess a number of features which group themselves under two major objectives: first, the test should reveal useful information and second, it should be administratively practical.

Neurovascular Syndromes of the Shoulder Girdle

F. Stanley Morest, M.D., Kansas City, Mo. In THE JOURNAL OF THE KANSAS STATE MEDICAL SOCIETY, 53:2:57, February 1952.

There are four main types of anatomic derangement of the shoulder girdle which may be responsible for neurovascular syndromes involving the upper extremities; namely, the cervical rib, scalenus anticus, costoclavicular and hyperabduction syndromes.

After correct diagnosis, treatment often brings dramatic relief. Keeping the arm out of faulty position often is sufficient to relieve the pain. In analyzing the activities of a patient over a 24-hour period, any faulty positions assumed during work, play or sleep, as the particular case illustrates, must be corrected. Frequently, as with mechanics who work with arms overhead, it will be necessary to change jobs, or omit a portion of the work responsible for using the arm in a faulty position. A change in sleeping position often is necessary.

Supplemental measures are designed to increase the angle formed between the clavicle and first thoracic rib by exercises designed to strengthen the so-called "elevator muscles" of the shoulder girdle, like the trapezius and elevator scapulae. Wright has outlined helpful exercises, such as shrugging of the shoulders forward and backward while holding a five-pound weight in each hand. Reaching exercises by the patient are carried out from a horizontal bar or by extending arm upwards overhead and to a mark on a door or wall. The patient tries to exceed his mark by one-fourth inch daily. These patients must be warned to begin with only three times for each exercise and to progress by one more time daily, thus avoiding induction of any muscle strain. Likewise, increasing gradually the amount of the weight held in each hand, it will be possible to go from 5 to 20 pounds in several weeks, if necessary. If the patient has faulty body posture as well, it also must be corrected.

Physical and Mental Health in the Aged

Elizabeth C. Horvath, M.S., and Steven M. Horvath, M.S., Ph.D., Iowa City. In JOURNAL OF THE IOWA STATE MEDICAL SOCIETY, 42:2:47, February 1952.

The superficial aspects of aging—the wrinkles, the gray hair, the shiny dome—are not important. There are more important, even though less conspicuous, changes that occur in aging and bear a greater significance for a happy old age: (1) Retarded repair of tissues. (2) Diminished reaction to injury and disease. (3) Diminished reserves and consequently decreased ability to respond to stress.

In view of their diminished capacities and reserves should old people exercise? Physical fitness in the aged is important. This state is not the prerogative of the athlete. The aged also may reach a high standard of exercise, physical fitness and health. The aged neither want nor need the physical development of the athlete. They need adequate daily activity of such nature and intensity as to keep the muscles and joints flexible. (This essentially is the aim of physicians and physical therapists in the field of physical medicine.) Exertion should not be permitted to reach maximal levels but should be stopped before the stage of breathlessness, palpitation or fatigue. The intensity and duration of exercise should be diminished gradually with advancing age. Carefully adjusted exercise is not only permissible but actually beneficial in many cases of degenerative heart disease, a common disorder in the aged. Too often the aged diminish their usual amount of exercise, due to natural disinclination or erroneous advice from relatives. Eventually they take to their beds for good and go downhill more quickly, both in body and mind, than those who remain active. One of the major benefits of exercise is that it serves to divert the mind into fresh channels and gives an emotional outlet for the cares and worries of daily life. The relief of

emotional tension in turn acts favorably upon the physical state of the individual. All this is in addition to providing for social outlets and contacts. Most of the restrictions of activity placed upon older people only make the days seem longer by making them duller. Every individual should carry on full activities as long as he can without undue fatigue or other injury to his constitution. He must learn to taper off with advancing age and stay within his limitations.

The Orthopedic Management of Arthritis

Peter L. Carnesale, M.D., and Mark W. Garry, M.D., Milwaukee, Wis. In AMERICAN PRACTITIONER, 2:10: 840, October 1951.

Complete and proper management of arthritis should consist of medical, physical therapy, psychiatric and orthopedic measures. The orthopedist often includes the physical therapy measures as part of the treatment; and the physician, the psychiatric. Medical treatment alone will not suffice for the severe arthritic and neither will orthopedic treatment alone.

It is essential that everyone treating arthritis should know and understand the simple orthopedic principles which are involved in the management of arthritis. Function in arthritis may be preserved when the following factors are taken into consideration during treatment:

(1) Rest—mechanical and physiologic.
(2) Immobilization and mobilization.
(3) Optimal position of rest and function.
(4) Prevention of deformity.
(5) Physical therapy—modalities and application.
(6) Maintenance of normal body posture.

The use of physical therapy is a field in itself and is not stressed in this paper. The function of a joint will often return spontaneously after the acute symptoms have subsided. Function will improve more rapidly with the use of proper physical therapy and rehabilitation, using means such as heat in its various forms and massage followed by motion under supervision. Close observation of reaction to treatment is necessary. Reappearance of swelling, heat, and pain may mean the treatment is too vigorous. It should be stopped until symptoms subside and then resumed with less vigor. If there is no reaction, more intensive treatment is encouraged. Each patient must be handled individually in this regard. Whirlpool or paraffin baths, heat and gentle massage, are recommended prior to attempted motion. This therapy should be done under the supervision of a physical therapist or at least by one who has the patience, time, and knowledge that is required. How long one should continue this treatment depends upon the patient; no two are the same. Supervised motion and physical therapy should continue as long as increase in motion is noted. The splints should be used especially at night for as long as there is a possibility that contractures may develop without the splints. However, if the patient is afebrile, the sedimentation rate is normal or approaching normal and the patient is responding to physical therapy, the splints should gradually be dispensed with but the patient should be closely observed. If it is noted that there is a recurrence of a contracture, the splints should again be resumed.

Cerebral Palsy (Concluded)

Eric Denhoff, M.D., Victor N. Smirnoff, M.D., and Raymond H. Holden, M.A., Providence, R. I. In THE NEW ENGLAND JOURNAL OF MEDICINE, 245:20:770, November 15, 1951.

During the last five years a growing interest has been shown in the psychologic appraisal of patients with cerebral palsy. Psychologic studies include intellectual evaluation, projective technics and experiments in perception and conceptual thinking.

The current use of the term "habilitation" rather than "treatment" implies the recognition of the need to equip the cerebral palsy patient with the means of developing his fullest potentialities. This requires the use of a multitude of physical, educational, and recreational resources, as well as proper handling of the emotional aspects of physical handicaps. It is hoped that this over-all therapeutic approach will help to alleviate the current major problem of cerebral palsy.

The aims of motor reeducation are to secure muscular relaxation, train voluntary muscular control, and build proper developmental patterns into useful activities. These goals usually are achieved through the various therapies, with the help of orthopedic, neurosurgical and pharmacologic measures.

Orthopedic treatment is aimed at helping the patient to achieve functional mobility and improve his appearance. Physical therapy and a variety of mechanical aids for sitting, standing, walking and functional use of the arms and hands are utilized to achieve this goal.

Specific physical therapy technics used in neuromuscular training have previously been outlined. Schwartz and his co-workers, having had disappointing results with the traditional passive physical therapy and bracing, evolved special motivating devices that measurably improve the child's manipulative potential over gravity. The outstanding example is the Hartwell Carrier, a motor-driven overhead suspension carrier that has enabled the cerebral palsy patient to learn more quickly the pattern of walking. The successes that the child achieves through this device encourage increasingly complex activities that lead to physical independence.

Foreign Abstracts and Reviews . . . .

Das Klapp'sche Kriechverfahren (Klapp Creeping). *By Dr. Bernard Klapp. Pp. 70; illus. 115; price DM 11.70. Georg Thieme Verlag, Stuttgart, Germany, 1952. Distributed by Grune and Stratton, Inc., New York, N. Y. (Translated and reviewed by Yvonne Kray, Physical Therapist at the Institute of Physical Medicine and Rehabilitation, New York, N. Y.)*

This book gives a rather detailed analysis of Klapp creeping exercises, their purpose and practical application. In order to make the basis of his theory clear, the author first discusses the anatomy of the vertebral column, then goes into the classification of scolioses and possible causes. He stresses the importance of early diagnosis in the prevention of severe deformities. In his opinion, treatment should be of at least one year's duration.

With these fundamentals in mind, Dr. Klapp goes on to "the practical

application" of the creeping exercises. He divides them into four main groups as follows:

1. Mobilization Exercises: The purpose is to find out the range of motion of the spine, as well as to mobilize it in all directions. These exercises should be given at the beginning of each period; however, they should not form the main part of the treatment.
2. Stretching Exercises: The purpose is the stretching of tight muscles, thereby striving for the ability to remain stretched out, which again leads to better posture.
3. Strengthening Exercises: The purpose is the building of a so-called "Muscle Corset" of abdominal as well as of back muscles.
4. Specific Corrective Exercises: Dr. Klapp points out that specific sections of the spinal column can be activated through varied starting positions of the trunk for different exercises. For instance the trunk may be kept low, horizontal, straight up, or in intermediate positions.

The descriptions of the exercises are clear, and all of them are supplemented by photographs. Examples are given of specific deformities, with outlines of treatment methods to be followed in each case.

The author's statements are based on many years of experience. It is the opinion of the reviewer that this book is most worth while as a reference text for any physical therapist and especially for those primarily concerned with posture corrections.

Variations of the Chronaxie. *By Dr. Rene Bremier, Medicina Fisica Y Rehabilitacion, No. 49-50, 1951. (Translated and abstracted by Erle L. Williams, Head of Department of Physical Therapy, John A. Andrew Memorial Hospital, Tuskegee Institute, Ala.)*

This article is based on a study by Dr. Rene Bremier of the variations of the chronaxie in pathological conditions. Dr. Bremier states that chronaxie diagnosis provides more tangible information than is available by the classic methods of electrodiagnosis. He presents mathematical evidence by which a pathologic condition, its improvement and aggravations, can be evaluated.

Dr. Bremier states that the study of the chronaxie allows for the establishment of a diagnostic certainty in cases where the clinic reaches only a probability of diagnosis. Cause of sickness can be determined with precise measurements, but due to the difficulties that this technic presents, diagnosis should be made by a specialist in chronaxie evaluations and in neurology. He should be capable of interpretating the results as well as performing the technic of investigation. Dr. Bremier presents the following cases:

Hemiplegia

In cases of hemiplegia, the vestibular chronaxie obtained through mono-auricular methods increases equally on both sides when there is no aphasia. If there is aphasia, it will increase on the left and decrease on the right.

Auditory Hallucinations

In instances of auditory hallucinations, the vestibular chronaxie through the positive pole will diminish on the right and remain normal on the left. In cases of visual hallucinations for delirium of persecution, the chronaxie diminishes on the right and remains normal on the left. In the phase of illusions it is possible that the sensory chronaxie of the left cerebrum will have a predominant reaction.

Acute Alcoholism

In acute alcoholism there is precise depression of the vestibular chronaxie. In chronic alcoholism a small dose of alcohol ($2cm^3$) will produce a typical depression in the chronaxie, which will return with sobriety.

In the typical crisis of hysteria, the optic vestibular chronaxie increases noticeably.

Book Reviews . . . . .

Manual of Rheumatic Diseases. *By W. Paul Holbrook, M.D., and Donald F. Hill, M.D., Tucson, Arizona with the assistance of Charles A. L. Stephens, Jr., M.D. Cloth binding; price, $4.25. Pp. 173; illus. 119. The Year Book Publishers, Chicago, 1950.*

This manual is a digest and summary of the authors' experience and opinion in the management of the arthritic patient and a resume of the problem of arthritis and rheumatism. A working classification of diseases of joints and related structures is offered which represents an adaptation of the standard classification of the American Rheumatism Association. The problem of diagnosis and differential diagnosis is discussed on a clinical level without reference to theories of etiology or detailed classification of joint involvement. The authors emphasize the need for management of the arthritic patient, drawing attention to the degree and length of disability resulting from the arthritic diseases. No specific forms of treatment are advocated. The treatment program recommended is a compilation of the several types of conventional treatment now in use, combined and modified to the specific needs of the patient. There is a tendency to belittle what is described as 'gadget physiotherapy' in principle, emphasis being placed on the training of the patient for 'using his own muscles through carefully directed exercises.'

A brief review of gold therapy together with indications and results in this form of treatment is offered. The use of X-ray therapy in the management of rheumatoid spondylitis is discussed together with a working method for its use.

The chapter on the use of cortisone and ACTH includes a brief historical account of these hormonal agents together with specific known results from their use. The authors are careful to point out the limitations of these agents, emphasizing that destroyed joints cannot be restored and deformities cannot be corrected through their use.

The chapter on the correction and prevention of deformities is particularly helpful and draws attention to correct use of conventional procedures including corrective and orthopedic shoes, plaster splints, position in bed, and other forms of support. The authors emphasize the use of manipulation of selected joints in correcting deformities which in their hands apparently gives good results.

The manual is well illustrated and the photographs add a great deal to the clinical information contained in the book. The manual is well written and easily read. It provides a work-

ing basis for quick review and appropriate regimens of treatment for the patient suffering from arthritis or rheumatism. The lack of an inclusive bibliography detracts from the book as a reference manual.

Rehabilitation Nursing. *By Alice B. Morrissey, B.S., R.N., Instructor in Rehabilitation Nursing, New York University-Bellevue Medical Center; Supervisor of Nursing Service, Department of Physical Medicine and Rehabilitation, Bellevue Hospital. Cloth binding; price, $5.00; pp. 299, illus. 58. G. P. Putnam's Sons, New York, 1951.*

The author of *Rehabilitation Nursing* is in a strategic position to present with some authority the contribution which nursing makes in the program of restoration of disabled individuals. She is Supervisor of Nursing Service, Department of Physical Medicine and Rehabilitation, at Bellevue Hospital, and is closely associated with the personnel in the several professional services represented in both Bellevue and the Institute of Physical Medicine and Rehabilitation.

The book is "addressed to all nurses" for the purpose of assisting them in "accomplishing four basic objectives, as follows:

1. "To acquire knowledge of the content of nursing care in rehabilitation.
2. "To develop an ability to teach the principles of rehabilitation nursing care.
3. "To extend the practice of rehabilitation nursing into every area of nursing care.
4. "To educate the public to accept the concept of rehabilitation."

The book is divided into three parts. Part I, "The Meaning of Rehabilitation," includes a review of the historical background and more recent developments in the management of care for the handicapped. Some statistical information regarding the extent of the incidence of disability is presented. Consideration is directed toward the importance of the psychological and social factors so important in work with ill or physically limited individuals.

Part II, "Nursing Principles and Procedures in Rehabilitation," and Part III, "Nursing Practice in Rehabilitation" each include many practical suggestions for the nurse. Various preventive measures of importance to nursing are discussed and illustrated. A chapter is devoted to the prevention and care of decubitus ulcers, with helpful suggestions regarding the management and relief of the pressure area itself, as well as important dietary considerations. The chapter on problems of elimination gives many helpful suggestions regarding management, and training for the development of elimination control.

Helping the patient to learn how to help himself and attain maximum self dependence, is the philosophy of the book. Explanations of methods of teaching a patient to move about in bed, come to a sitting position, dress himself, move from bed to chair and chair to chair, and crutch walking are a few of the procedures toward self dependence included in this book, which should be helpful to nurses. The chapters on nursing care of the amputee, the hemiplegic, paraplegic and quadriplegic patients are full of valuable suggestions regarding the application of general procedures to specific kinds of limitations. The book is liberally illustrated with diagrams and photographs which add clarity to the material presented.

It is not clear whether the author considers rehabilitation nursing as a specialty within the nursing profession, or whether she considers it a philosophy which should permeate all phases of nursing responsibility. The title of the book leads one to think the former is her concept, yet in many of her statements she seems to have a broader view of the functions and responsibilities of nursing.

In several instances the author points out the need for supportive service from the occupational therapist, the physical therapist, and the speech therapist working with the nurse to accomplish the best results for the patient. It would have been helpful to all the professional services involved if there might have been more clarification of this working relationship. It is regretted that this is omitted.

There is frequent reference to the nurse as a member of the "rehabilitation team." More expansion of this idea with clarification of the place of the nurse in relation to the other members of the group, as well as her responsibilities for planning and management of the day by day patient care program would have been desirable.

This book will undoubtedly be helpful as a reference book for nurses in any generalized service since it deals with problems met with increasing frequency. Also, it should be a reference for all members of the team who would be aware of each other's responsibilities.

Physical Medicine and Rehabilitation for the Aged. *By Walter S. McClellan, M.D., Medical Director, the Saratoga Spa, Saratoga Springs, New York; Associate Professor of Medicine, Albany Medical College. Leather-type binding; price, $2.00. Pp. 81; illus. 9. Charles C Thomas, Springfield, Illinois, 1951.*

Dr. McClellan, who is well qualified in the fields of Internal Medicine and Physical Medicine, presents a short monograph on the application of physical medicine procedures in treatment of the aged. The book begins with a brief discussion of the scope of the problem, description of types of treatment used and the prescription for treatment. The author then continues with a survey of the application of physical measures in specific medical conditions. Indications and contraindications as related to elderly patients are given throughout the discussion. Treatment technic is not explained in detail but is covered in a conversational manner that is easy to understand. The material presented is sound and is backed by the author's long experience.

The booklet should not be considered as a textbook, but is a fine introduction of the subject to physicians and therapists unfamiliar with the utilization of physical measures in treatment of aged patients.

Kinesiology: The Mechanical and Anatomic Fundamentals of Human Motion Illustrated. *By Katherine F. Wells, Ph.D., Assistant Professor, Graduate Department of Hygiene and Physical Education, Wellesley College. Price, $4.75. Pp. 478 with 224 figures. W. B. Saunders Company, Philadelphia, 1950.*

While it is always difficult to determine just what information should be included in a text dealing with Kinesiology, Miss Wells has made what appears to be a complete and intelligent selection. Because there has never been a clear-cut definition of this study, it is almost always true that any text must necessarily include a large amount of gross anatomy, physics, and physiology. The actual material dealing with analysis of motions is actually small in so far as its basic characteristic is concerned. Once the fundamentals

have been stated, the major task is one of repetition for different anatomical areas. This often leads to the use of too much basic anatomy so that many Kinesiology texts are, in reality, condensed versions of the larger Anatomy books.

In this text, however, there is a good balance between the necessary basic material and the application of this material for its intended use. Of particular interest is the section dealing with the interpretation of the theory in light of therapeutic application.

This book should prove of interest to both the clinical physical therapist and instructors of physical therapy. It is well illustrated, clearly written and informative.

Health Instruction Yearbook 1951. *Editor: Oliver E. Byrd, M.D., Ed.D., F.A.P.H.A., Professor of Education, Director of the Department of Hygiene, School of Education, Stanford University. Cloth binding; price, $3.50. Pp. 236. Stanford University Press, Stanford, 1952.*

The ninth edition of the Health Instruction Yearbook has the same design and purpose as previous editions. The content is completely new and includes condensations of articles published between July 1, 1950, and June 30, 1951. It represents a type of work that is greatly needed in the area of health education—a reference book which presents current thinking and research in an interesting, concise manner.

It includes biological and chemical sciences, experiences from communities, and technical reports from many fields of education, public health, medical research. The editor selected two hundred and fifty most significant reports for summarizations after review of 1500 periodical reports. The selections are reported under twenty-one different areas: Health as a Social Accomplishment and Problem, Nutrition, Excretion, Exercise and Body Mechanics, Fatigue and Rest, Mental Health and Disease, Heredity and Eugenics, Infection and Immunity, Chronic and Degenerative Disorders, Habit-Forming Substances, Care of Special Organs, Safety, Physical Environment, Health Services, International Health, Family, School and Occupational Health, and Recent Trends.

The Yearbooks are tools which cannot be overlooked by the physical educator, the health educator, the educator, auxiliary medical personnel, and those of the medical profession who wish to keep abreast with professional research in this area.

Growing in the Older Years. *Edited by Wilma Donahue and Clark Tibbitts. Cloth. 204 pages. University of Michigan Press, Ann Arbor, Mich., 1951.*

Medicine has followed definite cycles, much like women's fashions. At the present time the interest in geriatrics has been increasing and everyone is attempting to contribute something to this subject. This book is a compilation of many subjects written by people who have devoted much time to the study of the aging population. It is a good reference book giving a bird's eye view of the problems of aging. Most of the chapters are brief and have very little in them that would help either physical therapists or occupational therapists. The chapter on physical restoration and the older person is the only one which outlines a method of helping the older person and even this is very brief. Aside from this the book is well written, the paper being nonglossy and the type large enough to make reading easy.

Rheumatic Diseases. *Edited by Charles H. Slocumb, M.D. Prepared by the Committee on Publications, American Rheumatism Association. Hard cover; price, $12.00. Pp. 449; illus. 126. W. B. Saunders Company, Philadelphia, 1952.*

Rheumatic Diseases is based on the Proceedings of the Seventh International Congress on Rheumatic Diseases which met in New York in May of 1949. It was prepared by the Committee on Publications of the American Rheumatism Association under the chairmanship of Dr. Charles H. Slocumb and summarizes the contributions of 195 distinguished clinicians and laboratory scientists from all parts of the world. The majority of the contributors were Americans but the Continent of Europe, South America and Great Britain were well represented. The volume includes a wide variety of subjects, authoritatively presented in concise form. It is divided into 20 brief chapters. These deal with the following subjects: general information about rheumatic fever, rheumatoid arthritis, reflex dystrophies, fibrositis and psychogenic rheumatism, osteoarthritis, methods of treatment, laboratory and investigative studies. The text is liberally illustrated and well documented. Indeed, it serves as a key to recent trends in the management of the rheumatic diseases with emphasis on newer knowledge. Of historical interest is the classical report of the Nobel prize winners, Hench and Kendall, and their associates on the effects of cortisone and ACTH on rheumatoid arthritis and acute rheumatic fever.

The chapter on rehabilitation was written by Dr. K. G. Hansson and the late Dr. Jack Lovelock. Physical therapists will be interested in the fundamental contributions of Hines, Solandt, Horvath, McClellan and Mead. The diversity of the viewpoints presented and all-inclusive scope of the work make it an exceptionally informative reference book. Its 400-odd pages contain something of particular interest to every reader.

Arthritis and the Rheumatic Diseases. *By Philip Lewin, M.D., Professor and Chairman of the Department of Bone and Joint Surgery, Northwestern University Medical School; Professor of Orthopedic Surgery, Cook County Graduate School of Medicine. Hard cover; price, $3.50. Pp. 175. McGraw-Hill Book Co., New York, 1951.*

Dr. Lewin has written a simple, readable guide for the arthritic patient. He explains the various types of rheumatoid disease and covers what is known of the etiology.

He stresses the importance of early recognition, good medical care, and careful pursuance of a long term regime outlined by the doctor for the individual patient. The role of diet, rest, exercise and specific therapy is discussed. One section covers the new "wonder drugs" (ACTH and Cortisone) with a commendable balance of hope and caution.

This should prove a helpful book for the patient seeking a better understanding of his problem, but it is by no means a textbook for the physical therapist.

The reviews here published have been prepared by competent authorities and do not represent the opinions of the American Physical Therapy Association.

Correction

Physical Rehabilitation for Daily Living, by Edith Buchwald, was reviewed in the May issue of this journal. We regret that the title of the book was incorrectly given as, "Physical Rehabilitation or Daily Living."

Classified WANT-ADS

WANTED: Qualified physical therapist for well equipped department in 850-bed Barnes Hospital, Washington University Medical Center. Variety of neurologic, internal medicine and pediatric patients. Department supervised by Diplomate American Board of Physical Medicine. Liberal sick leave and vacation privileges. Contact Dr. Sedgwick Mead, Barnes Hospital, St. Louis, Mo.

WANTED: Physical therapist (qualified) to head growing department in 260-bed hospital with adjacent medical building. Equipment new and complete. Excellent working conditions. Good starting salary. Write W. C. Perdew, Superintendent, Bronson Methodist Hospital, Kalamazoo, Michigan.

WANTED: Physical therapist. New 150-bed hospital. Salary open. Baptist Hospital, Pensacola, Florida.

PHYSICAL THERAPIST, qualified, wanted in 113-bed hospital located near Chicago, Illinois. Newly organized and active department. Excellent salary, vacation and sick leave policy. Apply Personnel Director, Highland Park Hospital, Highland Park, Illinois.

IMMEDIATE opening. Three qualified physical therapists, male or female. Most modern equipment; physiatrist supervision; salary open. Elaborate addition under construction. Write: Nell H. Swartz, Director, Hedgecroft, 5120 Montrose, Houston, Texas.

WANTED: CONSULTANT—State Program for Crippled Children. Organize and administer orthopedic field clinics and local follow-up. Travel expenses paid. Need qualified physical therapist with experience in crippled children service. Wisconsin Career service. Permanent. Excellent personnel standards. Apply before June 21. Bureau of Personnel, State Capitol, Madison, Wis.

QUALIFIED PHYSICAL THERAPIST for Crippled Childrens Hospital. Write Miss Fannie Fox, Administrator, Texas Elk's Childrens Hospital, P.O. Box 7, Ottine, Texas.

A very interesting job in Nova Scotia for enterprising man or woman. We require a travelling physical therapist; fully equipped car and travelling expenses will be provided. Excellent starting salary. This is a permanent position and regular increments in salary will be provided. Please contact Dr. J. Gordin Kaplan, Nova Scotia Clinic for Poliomyelitis, Victoria General Hospital, Halifax, N. S., Canada.

WANTED: Physical therapist, nurse preferred, for Blosser Crippled Children's Home, Marshall, Missouri. Interesting variety of cases; splendid working conditions; salary range above average. Apply to Mrs. A. J. Beckman, Superintendent.

WANTED: PHYSICAL THERAPIST, experienced in general physical therapy and rehabilitation, for physiatrist's office, Pittsburgh, Pa. Excellent salary plus bonus. Give age, references, experience, etc. Address replies to Box 35, care of the Physical Therapy Review, 1790 Broadway, New York 19, New York.

WANTED: Qualified physical therapist for active dept. 125 beds mostly polio. Well equipped. Excellent salary, pleasant conditions, paid vacations. Write Ellen Steinhardt, Central Carolina Convalescent Hospital, Greensboro, N. C.

PHYSICAL THERAPIST for 250-bed general hospital. Work primarily with polio patients. Excellent salary with opportunity for advancement. Permanent. Baptist Hospital, Alexandria, Louisiana.

PHYSICAL THERAPIST NEEDED for work in cerebral palsy unit, Lincoln Public Schools, Lincoln, Nebraska. Service to begin around September 1, 1952. Please contact Steven N. Watkins, Superintendent of Schools.

WANTED: Qualified physical therapist to head well equipped department in 150-bed general hospital. Good salary and working conditions. Fine location. Vancouver Memorial Hospital, Vancouver, Washington.

WANTED: Physical Therapist, graduate approved school, permanent position. Excellent salary. To supervise Wake County Cerebral Palsy Clinic, Health Building, 201 W. Davie Street, Raleigh, North Carolina.

WANTED: IMMEDIATELY, 2 qualified female physical therapists. September 1, 1952, 1 female physical therapist. General Hospital Clinic with outpatient service. No cerebral palsy, polio or mental cases. Five day, 40-hour week, holiday, sick leave and vacation privileges. Quarters optional. Good beginning salary. Annual increases. Write to Miss Miriam E. Miller, The Johns Hopkins Hospital, 601 N. Broadway, Baltimore 6, Md.

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